# REPORT ON THE ROADCRUISER ACCESSIBLE BUS DEMONSTRATION PROJECT IN NEWFOUNDLAND

Prepared for Transport Canada
by
Fabian Kennedy
St. John's, Newfoundland
December 19, 1988

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## FOREWORD

The following report is a detailed analysis and review of the results of a pioneer demonstration project undertaken by Transport Canada to develop an intercity bus technology to provide an accessible intercity bus transportation service in Newfoundland. The resulting prototype accessible bus equipped with a fully enclosed elevator style lift built into the bus structure and controlled by means of a hand operated electronic micro-computer was the first of its kind in the world. Two Canadian intercity bus manufacturers have since developed the capability to produce similar accessible intercity buses on a production-line basis.

The report is essential reading for anyone who is contemplating the provision of an accessible intercity bus transportation service. The report deals with such key issues as reliability of the technology, impact on passengers served, level of service provided and the effect of the operation of the accessible bus on the regular scheduled service.

The report was initiated by Transport Canada as a final review of all aspects of the three-year demonstration project. The service was operated by the Roadcruiser Bus Service and is known as the Roadcruiser Accessible Bus Demonstration Project.

The report was prepared by Fabian Kennedy for Transport Canada. Mr. Kennedy is an experienced bus operator with a long and distinguised career in the transportation industry. He was the Manager of the Roadcruiser Bus Service before his retirement in 1988. He was also a member of the Roadcruiser Accessible Bus Demonstration Project Management Committee and was intimately involved with the project. Mr. Kennedy is currently a private consultant residing in St. John's, Newfoundland.

Milton House
Chairman, Management Committee
Roadcruiser Accessible Bus Demonstration Project

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## 1.0 BACKGROUND

Basic urban and intercity transportation is, important to the successful integration of the disabled into society. Accessible, affordable and available transportation helps disabled people to share in the social, cultural and economic advantages of society.

The automobile is the most popular form of transportation, both urban and intercity, for disabled and non-disabled people alike. It is likely to remain so. Given a choice, the typical intercity passenger will opt for the automobile. However, many do not have the choice at all times and their mobility needs must be met by other means. In Newfoundland, this basically means by air or by bus.

Air service is widely available between major centers and appears to be extensively used by disabled passengers. It is, however, a relatively expensive form of transportation, particularly for passengers living some distance from airports. For some disabled travellers it poses some extra physical and personal barriers. Bus transportation serves more local destinations directly, has an advantage in lower fares, and with improving accessibility it can offer a convenient and comfortable travel environment.

With the objectives of making bus travel in Newfoundland accessible, comfortable and available, Transport Canada and Roadcruiser agreed to operate an accessible bus across

Newfoundland on a regularly scheduled basis for a three year demonstration period beginning in 1985.

Transport Canada initiated this review as a final report on all aspects of the three year demonstration project. The report deals with the operating results of the project: the passengers who were served, the level of service provided, and the effect of the operation of the accessible bus on regular scheduled service. It also draws some conclusions on the future need and probable viability of an accessible bus service in Newfoundland over the longer term.

## 1.1 Roadcruiser Service and Transportation of Disabled Passengers

The Roadcruiser service in Newfoundland started in December 1968, operating across the Island from St. John's to Port aux Basques, replacing a passenger train service. Disabled people used the Roadcruiser service from the beginning. Sometimes they travelled with an attendant, but they frequently depended upon Roadcruiser staff for assistance in getting on and off the bus. Roadcruiser drivers and terminal employees gave this assistance freely, including lifting people on and off the bus where necessary.

In June 1981, Roadcruiser adopted a policy for providing assistance to disabled travellers which included lifting aboard. A copy of the Roadcruiser policy statement of June 1981 is attached as Appendix 1.

## 1.2 The Canadian Transport Commission - 1979

In November 1979, the Canadian Transport Commission convened three days of meetings in Ottawa to discuss the general subject of the transportation of disabled passengers in Canada. The meetings were attended by rail, air, water and road transportation companies and by many disabled people and representatives of organizations of and for disabled people.

Roadcruiser was represented at these meetings and submitted a brief outlining some ways to provide better transportation services to disabled travellers.

## 1.3 House of Commons Special Committee

The United Nations designated 1981 as the International Year of Disabled Persons. In February of that year, a Special Committee of the House of Commons on the Disabled and the Handicapped tabled a report in Parliament titled OBSTACLES. Recommendation number 86 of that report said that the Canadian Transport Commission should require the Roadcruiser service in Newfoundland to provide a facility or a service for lifting people in wheelchairs on and off the buses.

## 1.4 Canadian Transport Commission - 1981

On March 31, 1981, in response to recommendation 86, the Canadian Transport Commission ordered an Inquiry into the various options available for making Roadcruiser service

accessible to disabled travellers. The Inquiry reported on September 22, 1981. The Inquiry Report recommended:

1. A Roadcruiser Advisory Committee be set up to work with Roadcruiser personnel in making the existing Roadcruiser service more accessible to disabled travellers; and
2. An Experimental Service be operated by Roadcruiser for three years, funded by the Federal Government, based on a type of combination passenger service using one intercity bus and three van type vehicles in a partly scheduled, partly on-demand service across Newfoundland. The Canadian Transport Commission requested funds from the Minister of Transport to establish this experimental service.

## 1.5 The Roadcruiser Advisory Committee

In March 1982, Roadcruiser invited representatives from organizations of disabled people to join an Advisory Committee on the Transportation of Disabled Passengers by Roadcruiser, which it proposed to set up in response to the CTC Inquiry recommendation. The response from the people invited to serve on the committee was very supportive.

The first meeting took place in St. John's on April 23, 1983 and was attended by Irene McGinn, representing the Consumer Organization of Disabled People of Newfoundland (COD); Hammond Taylor, representing the Association for the Deaf;

Eugene Pike, representing the Canadian National Institute for the Blind (CNIB); and Fabian Kennedy, Manager of the Roadcruiser service. At the meeting these four members constituted themselves as a sub-committee of the Advisory Committee. The first project they decided upon was to make a trip on the Roadcruiser service; observe the level of service first hand; make an inspection of some typical terminals; and report back to the Advisory Committee.

The first full meeting of the Advisory Committee was held in St. John's on May 27, 1982. The meeting was attended by the four sub-committee members, as well as Doug Vicars from the HUB, a service organization for the physically disabled; John Pringle and Susan Pond from Transport Canada; and Robert Martin and Deana Silverstone from the Canadian Transport Commission.

At the second meeting in July 1982, Joyce Nevitt, representing the Newfoundland and Labrador Association for the Aging, joined the Committee. In February 1984, the Newfoundland Government appointed a representative to the Committee, Ed O'Brien, Provincial Director of Transportation. All of these organizations continue to be represented on the Advisory Committee. When the Canadian Transport Commission was replaced by the National Transportation Agency, that agency continued its Committee membership.

At the first full Advisory Committee meeting in May 1982,

Robert Martin was elected Chairman and the meeting reviewed and discussed the sub-committee report. This was the beginning of the Advisory Committee's work which is still continuing. In its subsequent meetings the Advisory Committee made recommendations to improve the accessibility of the Roadcruiser service, monitored the implementation of service improvements and, with the introduction of the accessible bus service, played a role in planning and monitoring that service as well.

A record of the members of the Roadcruiser Advisory Committee, from its formation in April 1982, is attached as Appendix 2.

## 2.0 THE DEMONSTRATION PROJECT

The Advisory Committee's role is to propose improvements to the Roadcruiser bus service which would enable disabled people, the physically disabled and the sight and hearing impaired to travel by Roadcruiser with greater confidence, independence and comfort. Early recommendations centered on improving the accessibility of existing facilities for the physically disabled and satisfying the information needs of the sight and hearing impaired. The Committee recognized that the vehicle itself was a major barrier for the physically disabled. The entry steps are too steep for many people; they are a barrier to entry and something of a hazard for people exiting to the ground. The right angle turn at the top of the entry steps and the narrow aisle make assisting and lifting passengers difficult. Some people object, on personal grounds to being lifted anyway. In addition, some people in wheelchairs are not able to travel in a regular bus seat, thereby being cut off from intercity bus travel entirely.

Early action to address some of these problems included the use of step stools placed on the ground by the driver at the bus entry; portable half-height stepping blocks placed on the entry stairway when a disabled passenger was entering or leaving the vehicle; and use of the "Washington" chair to lift disabled people on and off the bus.

An ideal solution would be an intercity bus, accessible to passengers in wheelchairs, which would also permit passengers to remain in their wheelchairs throughout the trip if they wished.

However, such an intercity vehicle was not standard to the industry in North America in 1982.

In April 1983, Transport Canada approved funding for an experimental accessible bus service to be operated by Roadcruiser for a three year demonstration period to provide intercity bus transportation to disabled travellers in Newfoundland. Transport Canada set up a Management Committee to plan the implementation of the service and to monitor results.

## 2.1 The Management Committee

The Management Committee included a representative from Transport Canada, who served as chairman of the Committee, and representatives from the Canadian Transport Commission, the Advisory Committee, and Roadcruiser.

The Management Committee held its first meeting in St. John's, on August 3, 1983. This meeting was chaired by Milton House of Transport Canada and was attended by Marion Fleming from the Canadian Transport Commission; Irene McGinn, the chairperson of the Advisory Committee at the time; and Fabian Kennedy of the Roadcruiser service.

On the following day, August 4, 1983, a joint meeting of the Management Committee and the Roadcruiser Advisory Committee was held. In addition to the people who attended the previous day's meeting of the Management Committee, this joint committee meeting was attended by Hammond Taylor, Association for the Deaf; Doug Vicars, The HUB; Eugene Pike, CNIB; Joyce Nevitt,

members of the Roadcruiser Advisory Committee.

Most of the meetings which followed were such joint meetings since the interests of the two committees were common. To all intents and purposes they functioned as one committee dealing with the planning and monitoring of the demonstration project, as well as ways to improve the overall accessibility of the regular Roadcruiser service for disabled travellers.

A record of the members of the Management Committee is attached as Appendix 3. Appendix 4 lists the meetings held by the Advisory Committee, the Management Committee and by the committees jointly.

## 2.2 The Accessible Bus

The Management Committee decided, with advice from the Roadcruiser Advisory Committee, to use the approved funds to provide an accessible intercity bus of the type operated by Roadcruiser in its regular service. The bus should be able to accommodate two passengers in wheelchairs who would be able to board the bus by means of a lift built into the vehicle and occupy the wheelchairs during the trip if they so wished. The bus would be operated in the regular Roadcruiser schedule.

Bus lifts then commercially available for boarding passengers in wheelchairs projected outside the bus while they were being deployed. The Management Committee decided to go for

a new design which, by using a section of the bus floor as an elevator platform that could be lowered to ground level, would lift the wheelchair passenger up inside the bus shell. Entry for the wheelchair passenger would be through a door cut into the side of the bus on the curb side.

In June 1984 Transport Canada contracted TES Limited, an Ottawa based engineering firm, to design, fabricate, install and test a wheelchair access device for an intercity bus. This was to be a self-contained, internal lift that would offer the user greater security and comfort than an external lift.

Transport Canada ordered an MC-9 Intercity coach, similar to all the other units in the Roadcruiser fleet, from Motor Coach Industries Ltd. of Winnipeg, Manitoba. The new bus was delivered to TES Limited in June 1984. TES designed and installed an elevator lift meeting the Committee's specifications. The completed bus, equipped with the lift and two sets of wheelchair tie-down devices, was delivered to Roadcruiser in St. John's, Newfoundland, in December 1984.

## 2.3 Training Program

The Advisory Committee developed a training program for instructing Roadcruiser personnel, drivers and terminal staff, with Transport Canada assistance. Training was designed to enhance the sensitivity of Roadcruiser personnel to the special needs of disabled passengers and to give some instruction in how to assist disabled travellers on and off the bus.

The training was conducted in class groups of six to ten employees at a time, with a combination of instruction, demonstration and role playing.

When the accessible bus was delivered to Roadcruiser, drivers and garage personnel were trained in the operation and maintenance of the lift equipment.

The sensitivity training in their approach to disabled travellers was well received by the drivers, and generally resulted in thoughtful and considerate service to disabled passengers. In follow-up reviews conducted at intervals throughout the experimental period, passengers rated the service and attitude of drivers and terminal staff highly.

Training in the operation of the lift itself was necessary but less effective. Individual drivers used the lift infrequently, and so had only limited opportunity to get familiar with its operation under service conditions. The lift had an aura of "computer-high tech" about it which also tended to intimidate the drivers.

This subject is dealt with in a later section on lift performance.

## 3.0 THE ACCESSIBLE BUS SERVICE

In the transportation of disabled travellers there are two types of service which can be operated: a service operating on a fixed time-tabled route or a service operating on a demand responsive basis. The early recommendations for the Newfoundland service, arising out of the CTC Inquiry Report of 1981, were for a combination of fixed route and on-demand service. Organizations for the disabled are generally against the on-demand type of service with its perceived connotations of a "special" or "handicapped" bus service. They argue strenuously for maximum integration of the disabled with the community generally in all activities, including intercity transportation.

The Roadcruiser Advisory Committee similarly felt that integration rather than "special" or parallel service was the way to proceed. An important element of the demonstration project was the integration of the accessible bus into the regular Roadcruiser service.

### 3.1 The Start of the Service

The program to introduce an accessible bus service for disabled travellers in Newfoundland was formally announced by Mr. John C. Crosbie, then Federal Justice Minister, acting for the Minister of Transport at a press conference at Hotel Newfoundland in St. John's on January 28, 1985.

Mr. Crosbie spoke about the new accesssible service, the

three year Transport Canada demonstration project, and new accessibility standards which had been developed for the Roadcruiser service. Other speakers referred to the advantages of the accessible bus in providing transportation for disabled persons.

Irene McGinn, the chairperson of the Advisory Committee and herself a wheelchair user, expressed the satisfaction of the Committee and the disabled community with the implementation of the new service. She said that the introduction of the accessible intercity bus, integrated into the regular Roadcruiser schedule, was the result of the efforts of the disabled community to achieve greater integration in transportation and all other aspects of society. She said that constant efforts were required to make people aware of the needs of disabled people and pointed out that, unlike the other speakers, she spoke to the gathering from the main floor level. Because she was in a wheelchair she was unable to reach the raised dais with the other speakers. It had not been made accessible to wheelchairs, because nobody had thought about it.

After these official ceremonies ended, the people present left the hotel to inspect the accessible bus which was parked outside. It was a windy, stormy day, one of the worst of that winter, nevertheless the bus demonstration went on as planned and Mrs. McGinn entered the bus in her wheelchair to demonstrate the accessibility of the vehicle.

The accessible bus made its first run in regular scheduled Roadcruiser service on February 1, 1985, leaving St. John's at 12:30 p.m. on Run 517.

A copy of the press release announcing the new service is attached as Appendix 5.

DEER LAKE
CORNER BROOK
GRAND FALLS
BISHOP'S FALLS
GANDER
CLARENVILLE
PORT AUX BASQUES
ST. JOHN'S
NEWFOUNDLAND
TRANS CANADA HIGHWAY

### 3.2 The Bus Schedule

Starting from the principle of complete integration with the regular Roadcruiser service, the Committee developed the bus schedule using the following criteria:

1. The bus should operate on a regular schedule, using a consistent schedule for each day of the week, so that disabled travellers could plan trips in advance.
2. The bus should operate on both a long distance run between St. John's and Port aux Basques (904 km), and a shorter run between St. John's and Grand Falls (428 km), and, if possible, should make each run once a week.
3. The bus should operate on days and at times most heavily patronized by Roadcruiser passengers generally.
4. Arrival and departure times should be in daylight hours as much as possible.
5. There should be opportunity for inspection and servicing at the St. John's garage between scheduled departures from St. John's to reduce the likelihood of road breakdowns.
6. The bus should be used to the maximum extent possible during the test period.

These criteria led to the selection of Run 517 out of St. John's on Fridays at 12:30 p.m. to Grand Falls, and Run 520 out of Grand Falls on Sundays at 12:30 p.m. to St. John's, as the short distance runs to be operated. These two runs were the

most heavily patronized runs in the Roadcruiser schedule and operated in mostly daylight hours over the route.

The Committee decided that the bus would be held for inspection and servicing in St. John's on Mondays and dispatched on long distance runs on Tuesdays and Wednesdays. The long distance runs selected were run 503 out of St. John's Tuesday at 8:00 a.m. to Port aux Basques, and Run 504 out of Port aux Basques on Wednesday at 8:00 a.m. to St. John's. This initial operating schedule remained in effect for twenty-two months.

Effective November 3, 1986, a schedule change was introduced under which the accessible bus operated on two long distance return runs a week, leaving St. John's at 8:00 a.m. on Wednesdays and Saturdays to Port aux Basques, Run 503, and leaving Port aux Basques at 8:00 a.m. on Thursdays and Sundays to St. John's, Run 504. The schedule change was made to test the demand in the west half of the Island between Grand Falls and Port aux Basques.

## 3.2 Toll Free Telephone Reservations

When the accessible bus service was being planned there was no information available as to what the demand for the service was likely to be. The vehicle could carry just two passengers in wheelchairs simultaneously.

A potential problem was that one or more wheelchair passengers might show up for transportation at an intermediate station when the two wheelchair spaces in the bus were already occupied. With no accessible back-up or overflow capacity available, the resulting distress and inconvenience to these passengers could be severe.

The Committee felt that a way of meeting this potential problem, at least until further information on demand was known, was to install a system by which passengers could make reservations for wheelchair space in advance. This would guarantee space for reserved passengers, and would allow other passengers to revise their travel dates, where possible, to days when wheelchair space could be made available. The reservation system would also help collect data on service demand for review in a later assessment of the program results.

A toll free telephone reservation system for wheelchair passengers was installed from all telephone exchanges in Newfoundland to the Roadcruiser office in St. John's. Since there was no requirement on non-disabled passengers to make advance reservations for space, the Committee felt that the no-cost system for disabled passengers only put them on an equal basis with all other bus passengers.

The Committee also felt that, while an advance reservation was desirable, it should not be a requirement for travel. A passenger in a wheelchair should still feel free to appear for

unreserved transportation and be entitled to accommodation on a space available basis, as generally applied to all passengers. The toll free telephone system was advertised as an elective service at the discretion of the user. It was advertised in the Roadcruiser schedule as "wheelchair space may be reserved in advance of the day of travel by calling the Roadcruiser office Toll Free 1-800-563-5944."

### 3.3 Terminals and Depots

The Roadcruiser bus service is operated by Canadian National. Canadian National owns six of the depot locations used by Roadcruiser. The other twenty-five premises used are hotels, service stations, and small stores owned by others.

A program of improving the accessibility of the depots used by Roadcruiser passengers began when major renovations were being made to the station in St. John's in 1980. This program was continued and extended to other company owned stations after the Roadcruiser Advisory Committee was formed in 1982 and was carried on concurrent with the accessible bus demonstration project from 1985.

One location, Deer Lake, is still inaccessible. The lack of accessibility of Deer Lake station was raised in three of the interviews conducted with disabled passengers between July and September, 1988. Passengers in wheelchairs cannot get into Deer Lake station, they are unable to get to the washrooms, and must wait for the bus outside the building unprotected from the elements. Deer Lake is a relatively well used station serving

the Northern Peninsula. If it is to be continued as a Roadcruiser stop, then it should be made accessible.

Over time most of the premises owned by others have gradually been made accessible, particularly those locations where a disabled passenger regularly uses the bus.

3.4 Promotion

1) Advertising:

A broad program of advertising and promotion was intended to make the service known to the public generally and to the disabled traveller in particular. A public relations firm was hired to design and to implement the advertising program. Members of the disabled community participated in it, contributing ideas and taking an active part in the accompanying activities.

Towards the end of the first year of operation, in November-December 1985, a special public relations/advertising campaign was initiated to increase ridership and public awareness of the accessible service. The campaign included newspaper advertisements, radio spots, posters and brochures, built around a campaign slogan devised by the Committee: "Regular Scheduled Service for Everyone."

2) Bus displays:

The accessible bus was displayed and the lift installation demonstrated at several population centers across Newfoundland, including a major program in Stephenville between May 17 and May 20, 1985. The special display at Stephenville was in

conjunction with a conference of disabled people. The bus was withdrawn from regular service for five days and a special service was operated between St. John's and Stephenville carrying delegates to and from the Conference. At Stephenville the bus was used transporting delegates to and from the conference site, and was used by nearly fifty persons in wheelchairs. This display reached some of the people that the bus was intended to serve and raised awareness of the service among those members of the disabled community.

Bus displays held at other population centers were not well attended and did not generate much local interest. It had been thought that generating local interest in the accessible bus as an integrated service would tend to increase ridership by disabled persons. This might still, however, be a valid premise.

Future displays would be more effective if better promoted. Local public figures, politicians and people identified with transportation, rehabilitation and services for disabled people should be invited to attend at the beginning of the local display. This would draw increased media news coverage, generate wider awareness of the display activity and perhaps result in greater local attendance by both able-bodied and disabled people. It would be worth trying again, the next time an accessible program is started or a new vehicle is introduced, to see if generating greater local interest actually translates into increased ridership by disabled travellers.

Between March 6 and March 15, 1986, the bus was withdrawn from regular service to participate in National Transportation Week ceremonies starting in St. John's, Newfoundland and ending, for the Roadcruiser bus, at North Sydney, Nova Scotia. This involvement generated some special additional news story advertising, which was supplemented by specific advertising at the same time announcing the schedule interruption.

3) Video:

A video tape describing the accessible bus and the service it offered to disabled passengers was produced in 1985, with the cooperation of several disabled people. This video was shown to interested groups and organizations and generated much favourable response. It was shown at a Canadian Bus Association meeting in 1985 and at a Conference on Mobility and Transportation of Elderly and Disabled Persons in Vancouver in 1986.

## 3.5 Passenger Information

From the beginning of the project, the Advisory Committee has considered ways to improve information services for deaf passengers.

Improvement of terminal services was relatively easy with printed signs, installation of a flashing light to indicate the bus was loading, and the introduction of TDD telephone capability. However no satisfactory solution was devised to inform deaf passengers, travelling on the bus, about the next

stop enroute, its name, or the length of time the bus would be there. The Committee reviewed many proposals. These generally involved either roll-up screens such as the one on the outside front of the bus indicating the final destination, or small electronic screens hung from the ceiling inside the bus, both to be operated by the driver to display the name of the next station stop. Nothing completely satisfactory has been found so far but the search for a satisfactory system continues.

# 4.0 PASSENGERS

## 4.1 Review Period for Passengers Carried

When this review of the demonstration project began, the available data covered a thirty-seven month period, from February 1, 1985 to February 29, 1988. In order to make the report as current and as comprehensive as possible, this period was used in the assessment of passenger related results. When other time periods are used for comparative purposes, they are identified and the dates covered are specified.

When the demonstration period ended on January 31, 1988, regular reporting of results was discontinued. However, much of the mechanism for reporting still exists. The advance reservation requests are being adequately logged and the drivers' report sheets on passenger use of the lift are still being completed and submitted by the drivers.

It is recommended that monthly or quarterly reporting of results be reinstated. While the service continues, it should be subject to periodic review, but this will only be possible if results are reported on a regular basis.

The driver's report is most important. This form should be revised to have the driver record the name of the passenger using the lift for access to the bus and also record those occasions when the lift is used during the trip to give the disabled passenger access to restroom or meal stop facilities.

## 4.2 Passenger-Trips

In the review period there were 130 one-way passenger-trips made by passengers who used the lift to enter and leave the bus, as shown in Table 1. One hundred and twenty-nine of these passenger-trips were made by people in wheelchairs. On 120 of these trips the passenger occupied the wheelchair during the trip; on 9 trips the passenger, having boarded by the lift, transferred to a regular bus seat for the trip. Only one person not in a wheelchair made use of the lift to board the vehicle.

Table 2 shows the distribution of the 130 passenger-trips by origin and destination stations.

**Table 1**

**Passenger-Trips on the Accessible Bus By Passengers Using the Lift - By Month**

| Month | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|
| January | - | 3 | 0 | 3 |
| February | 1 | 1 | 0 | 4 |
| March | 12 | 4 | 2 | 0 |
| April | 5 | 6 | 7 | 0 |
| May | 2 | 3 | 2 | 4 |
| June | 3 | 5 | 2 | 4 |
| July | 4 | 2 | 2 | 6 |
| August | 9 | 6 | 2 | |
| September | 2 | 0 | 5 | |
| October | 12 | 2 | 4 | |
| November | 5 | 2 | 2 | |
| December | 0 | 1 | 5 | |
| Total | 55 | 35 | 33 | |

**Table 2**

**Passenger-Trips By Disabled Passengers Using The Accessible Bus February 1, 1985 to February 29, 1988**

| Origin | Station | Destination |
|---|---|---|
| 51 | St. John's | 53 |
| | Whitbourne | 2 |
| 1 | Goobies | |
| 12 | Clarenville | 11 |
| | Gambo | 2 |
| 17 | Gander | 16 |
| 1 | Lewisporte | 1 |
| 2 | Bishop's Falls | 4 |
| 11 | Grand Falls | 10 |
| 2 | Badger | 1 |
| 1 | Baie Verte | 1 |
| 1 | Hampden | 2 |
| 8 | Deer Lake | 5 |
| 2 | Corner Brook | 1 |
| 7 | Stephenville | 4 |
| 9 | Jeffreys | 9 |
| 3 | Doyles | 3 |
| 2 | Port aux Basques | 5 |
| 130 | Total | 130 |

## 4.3 Use of Two Wheelchair Spaces

The two wheelchair spaces provided in the bus were occupied simultaneously for 21 bus trips, representing 42 passenger trips by passengers in wheelchairs. On two of these 21 trips there were three wheelchair passengers travelling, one passenger in each case transferring from the wheelchair to a bus seat for the trip. In all but one of the 21 cases St. John's was either the station of origin or the destination station for the passengers involved.

Twenty-one bus trips on which the two wheelchair spaces were simultaneously occupied out of 630 bus trips operated during the demonstration period reflects a ratio of use of both spaces of once in thirty trips or an average of about once every seven or eight weeks on the one bus which was operating.

In fact, of the twenty-one occasions on which the two wheelchair spaces were used, 14 occurred in 1985, the first year of the demonstration period. The two occasions during the demonstration period on which three wheelchair passengers appeared for transportation on the same run both occurred in 1985. The numbers indicate that provision of two wheelchair spaces is satisfactory for present passenger traffic levels.

## 4.4 Passengers Carried

During the period of the demonstration project the accessible bus was used by about sixty disabled people. Forty-three of these could be identified from the Roadcruiser records, the rest were people who travelled without an advance reservation

and could not be otherwise identified.

Table 3 shows the numbers of passengers who used the bus each year during the project and the proportion of first time travellers. The influx of first time users to the accessible bus service has been fairly constant year by year. In the first year of the service all 32 users of the service were first time users and some of them used it quite frequently. In 1986 there were ten new users; in 1987 there were eleven new users and, based on experience in 1988 up to the end of July, it appears that around ten passengers a year will continue to be the rate of first time use.

**Table 3**

**Passengers Using Accessible Bus/Lift Service**

| Year | Passenger Trips | Number of Passengers | |
|---|---|---|---|
| | | Total | First Time |
| 1985 | 55 | 32 | |
| 1986 | 35 | 21 | 10 |
| 1987 | 33 | 15 | 10 |
| 1988(1) | 7 | 6 | 3 |
| 1988(2) | 22 | 15 | 8 |

(1) 1988 to February 29
(2) 1988 to July 31

Table 4 shows the numbers of repeat passengers using the service over the demonstration period and the frequency of travel of repeat passengers.

**Table 4**

**Disabled Passengers - Frequency of Travel**
**February 1, 1985 to February 29, 1988**

| Number of Passengers | Trips Per Passenger Average | Trips Made | | | | |
|---|---|---|---|---|---|---|
| | | Total | 1988 | 1987 | 1986 | 1985 |
| A. Repeat Passengers | | | | | | |
| 1 | 12 | 12 | | 1 | 8 | 3 |
| 1 | 11 | 11 | 1 | 2 | 3 | 5 |
| 1 | 9 | 9 | 1 | 8 | | |
| 1 | 8 | 8 | | 3 | 2 | 3 |
| 2 | 5 | 10 | | 4 | 2 | 4 |
| 3 | 3 | 9 | | | 4 | 5 |
| 1 | 2 | 2 | | | 1 | 1 |
| 10 | | | | | | |
| B. Non-Repeat Passenger | | | | | | |
| 33 | 1.5 | 48 | 2 | 14 | 10 | 22 |
| C. Unidentified Passengers | | | | | | |
| | | 21 | 3 | 1 | 5 | 12 |

Repeat passengers defined as those who made more than one trip in the three year period.

These numbers suggest that the service is still gradually becoming known to disabled travellers and that on hearing about it they give the service a try at the first opportunity. Also, for most disabled people the bus schedule is more important than the fact of accessibility. They want to travel at times and on days that best suit their personal plans and will travel on a non-accessible bus at some increased inconvenience and discomfort rather than conform to the accessible bus schedule.

Having used the accessible bus they know what the service is like and what it offers to them and prefer to use it when it requires no great change in their preferred times of travel. There are, as well, a small number of disabled people who can use only the accessible bus or a private automobile. These people, particularly the ones with no easy access to a car or those who intend to travel relatively long distances, will often arrange their travel schedules to suit the accessible bus schedule.

## 4.5 Passenger-Trips: Origins/Destinations

As has been shown in Table 2 and as further detailed in Tables 5 and 6, the territory between St. John's and Grand Falls accounted for most of the passenger traffic. This might be attributed to the fact that there was more service to this territory because of the bus operating schedule from the start of the accessible service in February 1985 to a schedule change in November 1986. However, as a general traffic pattern this is

**Table 5**

**Passenger-Trips by Origin - Destination Stations**
**(Disabled Passengers Using the Accessible Bus)**

| Origin | Destination | Passenger Trips |
|---|---|---|
| St. John's | Clarenville | 10 |
| | Gambo | 3 |
| | Gander | 15 |
| | Bishop's Falls | 2 |
| | Grand Falls | 9 |
| | Badger | 1 |
| | Baie Verte | 1 |
| | Hampden | 1 |
| | Deer Lake | 2 |
| | Corner Brook | 1 |
| | Jeffreys | 3 |
| | Doyles | 1 |
| | Port aux Basques | 2 |
| Goobies | St. John's | 1 |
| Clarenville | St. John's | 11 |
| | Port aux Basques | 1 |
| Gander | St. John's | 16 |
| | Port aux Basques | 1 |
| Lewisporte | Deer Lake | 1 |
| Bishop's Falls | St. John's | 1 |
| | Deer Lake | 1 |
| Grand Falls | St. John's | 10 |
| | Doyles | 1 |
| Badger | St. John's | 2 |
| Baie Verte | Whitbourne | 1 |
| Hampden | St. John's | 1 |
| Deer Lake | St. John's | 3 |
| | Whitbourne | 1 |
| | Clarenville | 1 |
| | Lewisporte | 1 |
| | Bishop's Falls | 1 |
| | Doyles | 1 |

**Table 5**
**(continued)**

| Origin | Destination | Passenger Trips |
|---|---|---|
| Corner Brook | St. John's | 1 |
| | Port aux Basques | 1 |
| Stephenville | Hampden | 1 |
| | Jeffreys | 6 |
| Jeffreys | St. John's | 5 |
| | Stephenville | 4 |
| Doyles | St. John's | 2 |
| | Grand Falls | 1 |
| Port aux Basques | Gander | 1 |
| | Deer Lake | 1 |

**Table 6**

**Origin - Destination Pairs for Passenger-Trips Within the St. John's - Grand Falls Territory**

| Origin | Destination | Passenger Trips |
|---|---|---|
| St. John's | Clarenville | 10 |
| | Gambo | 3 |
| | Gander | 15 |
| | Bishop's Falls | 2 |
| | Grand Falls | 9 |
| Goobies | St. John's | 1 |
| Clarenville | St. John's | 11 |
| Gander | St. John's | 16 |
| Bishop's Falls | St. John's | 1 |
| Grand Falls | St. John's | 10 |

consistent with the pattern for Roadcruiser service generally and thus is not entirely schedule related.

Ninety-five or 73% of the 130 recorded passenger trips originated between St. John's and Grand Falls, including these two stations. Ninety-nine of these trips also terminated at a station in the same St. John's - Grand Falls territory. As is shown in Table 6, 78 of these trips both started and ended at stations between St. John's and Grand Falls. Thus 60% of disabled travellers were passengers who began and ended their trips between St. John's and Grand Falls; 39 of these trips terminated at St. John's and 39 trips started there as well. As an origin or destination station, St. John's figured in 78 trips, or 60% of the total trips made.

Other major destination stations in the St. John's - Grand Falls territory were Gander (16 trips); Clarenville (11 trips); and Grand Falls (10 trips).

These figures are fairly consistent with the travel pattern for Roadcruiser passengers but they do indicate a much heavier concentration of travel in the St. John's - Grand Falls territory by disabled passengers compared to Roadcruiser passengers generally. A survey of Roadcruiser passengers made over the period December 1985 to November 1986 found that 59% of passenger-trips began in the St. John's - Grand Falls territory and more than 46% of passenger-trips ended in the same area. As an origin or destination station, St. John's figured in more

than 58% of Roadcruiser trips made over the survey period. Table 7 shows how the travel pattern of trips made by disabled passengers in the accessible bus compares to the travel pattern of Roadcruiser passengers generally in terms of trips originating and terminating in the St. John's - Grand Falls territory.

**Table 7**

**Roadcruiser Passenger Travel Pattern**
**St. John's - Grand Falls**

**Disabled Passengers on Accessible Bus**
**Compared to All Passengers**

| Territory | Percent of Trips | | | |
|---|---|---|---|---|
| | Originated | | Terminated | |
| | All Trips | Access Bus | All Trips | Access Bus |
| St. John's - Grand Falls | 59% | 73% | 46% | 76% |

Roadcruiser data based on survey period December 1985 to November 1986, inclusive.

Accessible bus data cover period February 1, 1985 to February 29, 1988.

There are eight disabled passengers who have used the accessible bus service regularly since 1985. In six of these cases there is a social context to the trips that are made. Two of the passengers use the service once or twice a year to make family visits. One of these passengers, while preferring the accessible bus, will travel on a non-accessible bus when the schedule is more convenient and can sit in a regular bus seat without additional discomfort. This passenger has to be assisted on and off the bus either by a companion or by the driver and has no problems obtaining or accepting such assistance. The other traveller will plan trips around the accessible bus schedule and will not travel on a non-accessible bus.

Two passengers make regular runs to St. John's for medical reasons. Both say that the accessible bus is important to their travel plans. One of them refuses to be lifted, for personal reasons, and will not travel except by accessible bus or by automobile. The other, who as a young boy was accustomed to being lifted aboard a non-accessible bus, finds the accessible bus much more convenient now that he is older. His travel by the accessible bus, which was very frequent in 1985 and 1986, has dropped off in frequency due to the purchase of a van by his family. His travel by bus now is generally during the winter months.

The others live in St. John's. One attends University and uses the accessible bus to visit home a couple of times a year. Another, on rehabilitation, similarly uses the bus to visit home

once or twice a year. In the latter case the traveller prefers the accessible bus for the convenience and dignity it provides in boarding. Without it, he literally has to crawl aboard the bus. Once on the bus, the individual transfers to a regular seat for the trip. The other, the University student, is in a wheelchair, travels in the wheelchair, and would find any other form of transportation, except perhaps air, unsuitable.

The composition of the ridership over the three year demonstration period has been as shown in Table 8.

**Table 8**

**Disabled Passengers on Accessible Bus**
**First Time and Repeat Passengers**

| Year | Passengers | |
|---|---|---|
| | New | Repeat |
| 1985 | 32 | |
| 1986 | 10 | 11 |
| 1987 | 10 | 5 |
| 1988 | 8 | 7 |

1988 to July 31

In 1985, 32 people used the accessible bus service; 11 of these used the service again in 1986. Those who used the service and continued to use it were for the most part attracted by the ease and comfort afforded by the lift in boarding and exiting the vehicle. Those who continued to use it spoke of the difficulty associated with getting on and off a non-accessible bus and the sense of insecurity and loss of dignity associated with being lifted around. Some would not accept being lifted on a bus at all and would have to find some other way of travel if the accessible bus was not available. This would usually have to be a private automobile of a friend or a family member.

The reasons for non-repeat use of the accessible bus were: no reason for subsequent travel, the 1985 trip being a special event (an out-of-town conference); a temporary disability only in 1985 which did not exist the following year; availability of a preferred alternative mode, the automobile; and schedule convenience.

In 1986 there were ten new users of the service. Few of these passengers used the service in the following year. The accessible bus, while much more comfortable and convenient, took second priority to the schedule in terms of days of travel. Of the eleven trips made by new passengers in 1986, eight were on Fridays or Sundays. These passengers were among those who found the schedule, after it was changed on November 3, 1986, to be less convenient to them and chose to travel on a non-accessible bus for schedule convenience.

In 1987, ten new passengers began riding on the accessible

bus. Only one of them has yet made a trip in 1988. However, five say that they expect to travel on the accessible bus in 1988. Six of the passengers live west of Grand Falls. Five of them say that they can be flexible as to days of travel and would change their own travel plans to suit the accessible bus schedule. All five travel for social/holiday purposes.

## 4.6 Passengers by Gender

As shown in Table 9, of the forty-three passengers who could be identified 28 were male and 15 female. This is a ratio of 65% male to 35% female, compared to an overall Roadcruiser ratio of 33% male to 67% female passengers.

**Table 9**

**Use of Accessible Bus Service by Disabled Passengers**

**February 1985 to February 1988 (inclusive)**

| Passengers Category | Number of Passengers | Number of Trips | Trips Per Passenger |
|---|---|---|---|
| Male | 28 | 71 | 2.5 |
| Female | 15 | 38 | 2.5 |
| Unidentified | 14 | 21 | 1.5 |
| Total | 57 | 130 | 2.3 |

The number of unidentified passengers is calculated at an average of 1.5 trips per passenger

In total, these forty-three identified passengers account for a total of 109 trips or an average of 2.5 trips per passenger. The average frequency of travel was the same for female as for male passengers. However there was some indication of a shift in frequency over the demonstration period. In 1985, the first year, there were 15 identified male passengers and 8 identified female passengers. The 15 male passengers accounted for 30 trips and the 8 female passengers for 13 trips, an average of two trips per male passenger and 1.6 trips per female passenger. In 1987, the last full year of the demonstration period, there were 9 identified male passengers and 5 identified female passengers. The nine male passengers accounted for 16 trips, an average of 1.8 trips per male passenger, while the five female passengers accounted for 16 trips, an average of 3.2 trips per female passenger, almost the reverse of the 1985 pattern. While the 1987 statistics are slightly skewed by one female passenger who made eight trips in that year, they do nevertheless indicate increasing travel frequency by female passengers.

The variation in numbers of disabled female travellers by Roadcruiser compared to the overall Roadcruiser passenger carryings may be due to several factors such as a lesser number of disabled females in the population and/or a slower acceptance of travel opportunities by female disabled persons. It is likely that travel by female disabled persons will approach the Roadcruiser average as familiarity with the accessible bus becomes more widespread.

## 4.7 Reasons for Travel

Roughly half of all the trips made on the accessible bus by disabled travellers were for social/recreational reasons, visiting family and friends. This accounts for the high number of passengers (25%) who say they could adjust their own travel schedule to the accessible bus schedule without too great a difficulty or inconvenience.

Many trips had multiple purposes, such as a combination of social and medical or social and educational reasons. It is fairly common for a passenger to schedule a visit with friends in St. John's around a medical appointment and, whenever possible, to arrange the trip around the accessible bus schedule. Also, a combination of social and educational reasons exists where a student living in St. John's during the year visits home during the school breaks.

Table 10 shows the reasons for trips as a percentage of trips made, based on information from twenty-five passengers, about half of the number of passengers who travelled on the bus. Where the trip was made for a combination of reasons, such as social and medical, both reasons were included in arriving at the percentage figures shown in the table.

## 4.8 Assessment of the Service

In planning the accessible bus service to be operated as part of the regular Roadcruiser service on a published schedule, no different than that governing the non-accessible buses, the

**Table 10**

**Disabled Passenger-Trips on Accessible Bus**
**Reasons for Travel**

| Reasons for Trip | Percent of Trips |
|---|---|
| Social, visiting family, etc. | 55% |
| Medical | 32% |
| Education, work, etc. | 13% |

initial concerns were:

1. What would be the effect on the regular service?
2. Could a satisfactory service be provided to disabled travellers under such arrangements?

The Committee identified two potential problems in the operation of the accessible bus in the regular scheduled service. First, there could be serious schedule delays because of trouble with the lift or the extra time necessary to load and unload wheelchair passengers. Second, there could be a necessity to operate additional bus miles because of road breakdowns, schedule delays or the loss of seating capacity in the accessible bus due to the lift installation (39 seats in the accessible bus compared to the usual 47 seats in all the other buses).

In the course of the operation none of these problems were encountered to any significant degree. The lift equipment functioned relatively trouble-free over the period of the demonstration project. Infrequent loss of time in the operation

and very rare cancellations of the accessible bus service arising from lift problems or necessary bus maintenance did not disrupt the regular Roadcruiser service to any serious extent, and did not add to Roadcruiser costs. Time taken getting wheelchair passengers on and off the bus by means of the lift did not cause any serious delays, especially since it occurred infrequently.

The loss in seating capacity and of baggage space did not occasion extra expense for the operation of additional bus miles. Analysis of the records indicates that on those occasions when an extra section operated, the extra bus, or in some cases extra buses, were needed to serve more than eight passengers on that run. Therefore the operation of the accessible bus occasioned no serious operating or scheduling problems for Roadcruiser and did not cause any extra operating expense.

The other basic question is whether a satisfactory service was provided to wheelchair passengers by the operation of the accessible bus integrated into the regular Roadcruiser schedules. The pressure the drivers feel to maintain schedule, a very valid concern for them, conflicted at times with the objective of providing the most comfortable travelling experience for the wheelchair passengers. Three of the disabled passengers who were interviewed felt that the time between scheduled meal stops was too long for them to go without a break. The majority of disabled passengers, however, were quite

prepared to accept the schedule as it is and some of them do not exit even at meal stops.

This latter situation is not a good one and appears to be mainly one of attitude. Some of the passengers are reluctant to ask for the lift service at meal stops because of the inconvenience and probable delay they feel it causes the drivers and other passengers. This feeling should not exist. It can be overcome by looking upon the lift as just another way of entering and leaving the bus, an ordinary alternative to the entry/exit steps. This is further discussed in the section on the lift and the problems identified with its use in service.

# 5.0 SCHEDULES

## 5.1 Two Schedules Operated

Over the three year period of the demonstration project the accessible bus was operated on two different schedules in order to get a broader view of the travel patterns and requirements of disabled travellers.

From the start of the service in February 1985 until a change in schedule in November 1986, a period of twenty-one months, the bus was on a schedule leaving St. John's on Tuesdays at 8:00 a.m. to Port aux Basques (Run 503); and Fridays at 12:30 p.m. to Grand Falls (Run 517); returning runs to St. John's left Port aux Basques on Wednesdays at 8:00 a.m. (Run 504) and Grand Falls on Sundays at 12:30 p.m. (Run 520).

From the change of schedule on November 3, 1986 to December 16, 1988 (for purposes of this review to February 29, 1988, a period of sixteen months), the bus operated on a schedule leaving St. John's on Wednesdays and Saturdays at 8:00 a.m. for Port aux Basques (Run 503) and leaving Port aux Basques at 8:00 a.m. on Thursdays and Sundays for St. John's (Run 504).

An abbreviated outlined of the two operating schedules which were in effect during the demonstration period is shown in Table 11. The detailed Roadcruiser operating schedules are included as Appendix 6: Schedule 1 - Roadcruiser Schedule in effect between February 1, 1985 and November 2, 1986; and Schedule 2 - Roadcruiser Schedule Effective from November 3, 1986.

## Table 11

## Accessible Bus Operating Schedules

| Schedule 1: February 1, 1985 to November 3, 1986 | | | | |
|---|---|---|---|---|
| Read Down | | | Read Up | |
| Friday 517 | Tuesday 503 | Station | Wednesday 504 | Sunday 520 |
| 5:30 p.m. | 8:00 a.m. | St. John's | 10:30 p.m. | 7:15 p.m. |
| 8:10 p.m. | 10:35 a.m. | Clarenville | 7:55 p.m. | 4:40 p.m. |
| 10:10 p.m. | 1:00 p.m. | Gander | 5:50 p.m. | 2:30 p.m. |
| 0:05 a.m. | 2:45 p.m. | Grand Falls | 3:50 p.m. | 12:30 p.m. |
| | 5:40 p.m. | Deer Lake | 12:55 p.m. | |
| | 6:20 p.m. | Corner Brook | 12:10 p.m. | |
| | 7:00 p.m. | Corner Brook | 11:50 a.m. | |
| | 10:55 p.m. | Port aux Basques | 8:00 a.m. | |

| Schedule 2: November 3, 1986 to February 29, 1988 | | |
|---|---|---|
| Wednesday Saturday 503 (read down) | Station | Thursday Sunday 504 (read up) |
| 8:00 a.m. | St. John's | 10:30 p.m. |
| 10:35 a.m. | Clarenville | 7.55 p.m. |
| 1:00 p.m. | Gander | 5:50 p.m. |
| 2:45 p.m. | Grand Falls | 3:50 p.m. |
| 5:40 p.m. | Deer Lake | 12:55 p.m. |
| 6:20 p.m. | Corner Brook | 12:10 p.m. |
| 7:00 p.m. | Corner Brook | 11:50 a.m. |
| 10:55 p.m. | Port aux Basques | 8:00 a.m. |

## 5.2 Effect of Schedule on Passenger Travel

The results of the bus schedule change on passenger travel in the accessible service is shown in Table 12. The total number of trips made by disabled travellers on the accessible bus under Schedule 2 was only half of the number of trips made under Schedule 1: 43 compared to 87. However, this was not entirely a result of the schedule change. The table also shows a passenger decline by year. There was a reduction in passengers carried in 1986 compared to 1985 prior to the schedule change.

However the continuing decline following the change in schedule was greater than can be explained in terms of the overall passenger decline. From other data in the report it can be concluded that convenience of schedule is a more important factor for many disabled travellers in the timing of trips than accessibility per se. The change in schedule resulted in accessible bus service being provided to fewer people. It probably made little if any difference however in the total number of disabled passengers who travelled on the Roadcruiser buses.

As can be seen from Table 12, most of the passengers who travelled on the accessible bus started and ended their trips at a station in the St. John's - Grand Falls territory and most of them travelled on Runs 517 and 520. The schedule change in November 1986 dropped these two runs, 517 and 520, from the accessible bus service schedule and added two cross-Island runs which operated on different days and at different times. As Table 12 shows, the passengers who travelled on Runs 517 and

520, which was basically a weekend service between St. John's and Grand Falls, did not travel on the accessible bus after the scheduled was changed.

**Table 12**

**Passenger Trips on Accessible Bus Under Schedules 1 and 2**

| Run | Schedule 1 | | | Schedule 2 | | |
|---|---|---|---|---|---|---|
| | 1985 No. | 1986 No. | Total No. | 1987 No. | 1988 No. | Total No. |
| Run 517 + 520 | 30 | 22 | 52 | | | |
| Run 503 + 504 | 25 | 10 | 35 | 36 | 7 | 43 |
| All Runs | 55 | 32 | 87 | 36 | 7 | 43 |
| Origin and Destination Grand Falls & East: | | | | | | |
| Run 517 + 520 | 30 | 22 | 52 | | | |
| Run 503 + 504 | 9 | 5 | 14 | 6 | 6 | 12 |
| All Runs | 39 | 27 | 66 | 6 | 6 | 12 |
| Origin or Destination West of Grand Falls | 16 | 5 | 21 | 30 | 1 | 31 |

Schedule 1: 1985 includes from February 1
1986 includes to November 2

Schedule 2: 1987 also includes November and December 1986
1988 includes January and February only

Table 13 shows the change in total passengers carried under the two schedules broken down between those passengers whose trips were wholly within the St. John's - Grand Falls territory and those whose trips started or ended west of Grand Falls. This table shows clearly how the travel pattern changed and indicates the role the schedule change played in both the passenger decline and the changed travel pattern. A significant passenger decline occurred in trips originating and terminating in the St. John's - Grand Falls territory, while there was some increase in trips extending into the territory west of Grand Falls.

**Table 13**

**Comparison of Passenger-Trips on Accessible Bus East and West of Grand Falls Under Schedules 1 and 2**

| Origin-Destination | Schedule 1 Trips | Schedule 2 Trips |
|---|---|---|
| Origin and Destination: | | |
| Grand Falls and East | 66 | 12 |
| West of Grand Falls | 7 | 7 |
| Origin or Destination: | | |
| Grand Falls and East | 14 | 24 |
| West of Grand Falls | 14 | 24 |
| Between: | | |
| St. John's - Clarenville | 19 | 2 |
| St. John's - Gander | 25 | 6 |
| St. John's - Grand Falls | 15 | 4 |
| Total Trips | 87 | 43 |

Schedule 1: February 1985 to October 1986 inclusive.
Schedule 2: November 1986 to February 1988 inclusive.

## 5.3 Passenger Change in St. John's - Grand Falls Corridor

Table 13 and Table 14 show the changes in passenger travel which occurred in the St. John's - Grand Falls territory following the change in schedule in November 1986.

**Table 14**

**Origin - Destination Combinations**
**Passenger Travel by Accessible Bus**
**St. John's - Grand Falls Territory**
**Comparable 12-Month Periods of Schedule 1 and 2**

| Origin - Destination | Schedule 1 November 1985 to October 1986 (12 months) | Schedule 2 November 1986 to October 1987 (12 months) |
|---|---|---|
| St. John's - Clarenville | 6 | - |
| Clarenville - St. John's | 6 | 1 |
| St. John's - Gander | 2 | 1 |
| Gander - St. John's | 7 | 1 |
| St. John's - Grand Falls | 2 | - |
| Grand Falls - St. John's | 4 | - |
| Total Trips Originating St. John's - Grand Falls | 32 | 12 |
| Total Trips Destinations St. John's - Grand Falls | 34 | 17 |

Trips made wholly within that territory dropped from 66 over the twenty-one months of Schedule 1 to only 12 in the sixteen months of Schedule 2.

Table 14 shows the decline in numbers of passengers in terms of the main origin and destination stations in the St. John's - Grand Falls territory under each schedule for comparable twelve month periods. While some of this decline may be due to an overall reduction in the numbers of people travelling by bus over the period, the most significant cause of the decline is the changed bus schedule.

One important effect of the schedule change was to alter the weekend travel times between St. John's and Grand Falls. A good indicator of the effect of the schedule change would be a change in the numbers of people travelling in weekend service by the accessible bus. Table 15 shows the results of such an analysis for the same twelve month periods as in Table 14. Table 15 confirms the conclusion that the decline in passenger carryings on the accessible bus was primarily schedule related.

The passengers included in Table 15 all travelled on weekends. Under Schedule 1 the trips originated out of St. John's on Fridays at 12:30 p.m. (Run 517) and out of Grand Falls at 12:30 p.m. on Sundays (Run 520). When these two runs were dropped from the accessible bus schedule the alternative weekend service available under the new schedule to this same territory was out of St. John's on Saturday morning at 8:00 a.m. (Run 503) and out of Grand Falls on Sunday afternoon at 3:50 p.m. (Run 504). For the twelve month period of the review none of the

passengers who had formerly travelled by the accessible bus under Schedule 1 chose the alternative service offered by Schedule 2.

**Table 15**

**Origin - Destination Combinations**
**Passenger Travel by Accessible Bus**
**Weekend Travel**
**St. John's - Grand Falls Territory**
**Schedules 1 and 2**

| Origin - Destination | Schedule 1 November 1985 to October 1986 Runs 517 Friday 520 Sunday | Schedule 2 November 1986 to October 1987 Runs 503 Saturday 504 Sunday |
|---|---|---|
| St. John's - Clarenville | 6 | - |
| Clarenville - St. John's | 3 | - |
| St. John's - Gander | 2 | - |
| Gander - St. John's | 4 | - |
| St. John's - Grand Falls | 2 | - |
| Grand Falls - St. John's | 4 | - |

Interviews with passengers indicate that this was not so much a loss in passengers for Roadcruiser service as a diversion of wheelchair passengers towards non-accessible buses. A small number of disabled passengers will hold out for the accessible bus and will change their own travel plans to meet the accessible bus schedule because it is the only mode possible for them

to use, others because it is more comfortable travelling and/or less demeaning to them in the processes of entering and leaving the bus. But for many disabled travellers, although there is a general preference for the accessible bus system, scheduled times appear to be more important than accessibility.

As the numbers suggest, most disabled passengers will continue to put a more convenient schedule ahead of accessibility.

Over time the objective must be to provide more frequent accessible service. Disabled passengers can then have the convenience of alternative schedules plus the comfort and advantages of the accessible bus.

## 5.4 Passenger Change West of Grand Falls

Following the change in schedule in November 1986, there was an increase in the numbers of passengers carried in the territory west of Grand Falls which partly offset the decline in the Grand Falls east territory. This increase occurred in passenger-trips which either originated east and ended west of Grand Falls or originated west and ended east of Grand Falls. Trips of that kind can only be made on the cross-Island runs, 503 and 504. The schedule change which was made in November 1986 provided a new westbound Saturday afternoon/evening service and an eastbound Sunday morning/afternoon service to the area between Grand Falls and Port aux Basques. The question therefore was whether the passenger increase occurred because of the new schedule, that is, whether this increase consisted

primarily of Saturday and Sunday travel which would not have been otherwise made if the schedule had not been changed.

As Table 16 shows, most of the increase did occur in Saturday/Sunday trips which originated or terminated at a station west of Grand Falls.

**Table 16**

**Passengers-Trips West of Grand Falls on Accessible Bus Under Schedules 1 and 2**

| | Schedule 1 Trips No. | Schedule 2 Trips No. |
|---|---|---|
| Origin and Destination West of Grand Falls: | | |
| Total Trips | 7 | 7 |
| Saturday and Sunday Trips | 0 | 4 |
| Origin or Destination West of Grand Falls: | | |
| Total Trips | 14 | 24 |
| Saturday and Sunday Trips | 0 | 12 |

There was no increase in the number of trips where both the origin and destination stations were located west of Grand Falls. Under both schedules the total for such trips was seven. However, there was a change in the origin-destination patterns for these trips. Under Schedule 2, these trips were

entirely short distance trips between local communities, as can be see in Table 17. Of the seven trips made under Schedule 2, five were one-way on the accessible bus with return by a non-accessible bus or by another mode. This local traffic is not strictly schedule related in so far as the accessible schedule is concerned. The passengers will continue to use the bus, accessible or not accessible, for this local movement. But the accessible bus, when the schedule is convenient, makes the trip easier and more comfortable.

**Table 17**

**Travel Between Stations West of Grand Falls**

| Stations | Passenger-Trips | |
|---|---|---|
| | Schedule 1 | Schedule 2 |
| Jeffrey's and Stephenville | 3 | 7 |
| Deer Lake and Doyles | 1 | |
| Stephenville and Hampden | 1 | |
| Port aux Basques and Deer Lake | 1 | |
| Corner Brook and Port aux Basques | 1 | |
| Total | 7 | 7 |

The major change of Schedule 2 was in providing Saturday and Sunday service across Newfoundland between St. John's and Port aux Basques. There were 136 such trips operated under Schedule 2 between November 3, 1986 and February 29, 1988. On 11 of these trips passengers travelled east or west of Grand Falls, making a total of 13 passenger-trips. It was possible to identify seven passengers who between them accounted for twelve of the thirteen trips made. For these passengers the weekend operating schedule was convenient, but for only two of them was it of any importance in determining the timing of the trip, and these were trips one-way between home and University after a Christmas break. All of them preferred to travel on the accessible bus; all seven said that for a long trip, given sufficient notice, they would adjust their own travel schedules to meet the operating schedule of the accessible bus. Such adjustments in their own travel planning would generally present no problems for them.

## 5.5 Schedule Effect on Bus Mileage

At the beginning of June 1988, bus number 55, the accessible bus, had operated 571,000 kilometers since the beginning of the service in February 1985. This compares to buses numbers 53 and 54, Model MC-9 buses, acquired by Roadcruiser around the same time as bus 55, which had, to the beginning of June 1988, registered 510,000 kilometers and 496,000 kilometers respectively. The three buses operated roughly comparable schedules and accumulated comparable mileages up to November 1986.

The change in operating schedule then made had the effect of substantially increasing the mileage operated by bus number 55 relative to the other two buses. As Table 18 shows, the average annual mileage operated by each bus prior to the schedule change was about 138,000 kilometers for buses 53 and 54 and 158,000 kilometers for bus 55. After the schedule change the annual mileages operated by buses 53 and 54 did not change very much, in fact they reduced slightly due mainly to a decline in passengers, whereas the annual mileage operated by bus 55 increased significantly to nearly 190,000 kilometers.

**Table 18**

**Kilometers Operated by Buses Nos. 53, 54, and 55**

| Bus Number | To January 1, 1987 | | Jan. 1/87 to June 1/88 | |
|---|---|---|---|---|
| | Kilometers | Average Per Year | Kilometers | Average Per Year |
| 53 | 341,000 | 141,000 | 169,000 | 119,000 |
| 54 | 322,000 | 133,000 | 174,000 | 122,000 |
| 55 | 304,000 | 158,000 | 267,000 | 188,000 |

# 6.0 THE ELEVATOR LIFT

## 6.1 Use of the Lift

The elevator lift in the bus was used on 130 bus trips for boarding and exiting passengers. There are no data on the use of the lift during the course of the trip for rest stops and for meal stops. However, fifty-five of the trips were through one and sometimes two scheduled meal stops and, while some wheelchair passengers prefer not to leave the bus at intermediate stops once they are on board, the majority of passengers welcome the break. A reasonable estimate of in-service use of the lift over the three year demonstration period would be about 400 lift cycles.

## 6.2 Lift Problems

As Table 19 shows, the electronic and hydraulic components of the lift system have been remarkably reliable, particularly considering that this was the first installation of its kind.

**Table 19**

**Lift Problems Reported**

| Year | Number of Driver Trips Used | Number of Problems Reported | Ratio | |
|---|---|---|---|---|
| | | | Problems to Trips | Problems Per Ten Trips |
| 1985 | 65 | 12 | 1:5.4 | 1.8 |
| 1986 | 37 | 4 | 1:9.2 | 1.1 |
| 1987 | 37 | 5 | 1:7.4 | 1.4 |
| 1988 | 24 | 5 | 1:4.8 | 2.1 |
| Total | 163 | 26 | 1:6.3 | 1.6 |

1988 to July 31

The ratio of reported problems to driver trips where the lift was used has, however, been gradually increasing over the last two years. In the first year of operation, 1985, there was an average of 1.8 problems reported per ten trips operated. These problems were related to initial difficulties with the electronic equipment compounded by unfamiliarity with the equipment and its operation characteristics on the part of drivers and maintenance personnel. When these initial difficulties were overcome, the ratio of lift problems declined in 1986 to 1.1 per ten trips operated. However, this ratio is now increasing and for the first six months of 1988 stands at 2.1 to ten trips, slightly higher than it was during the first year of service. The bases of the problems now appear to be more mechanical than electronic, relating to the operation of the under-floor locking devices and the security gates.

## 6.3 Lift Problems - Effect on Operations

The problems encountered with the lift caused some delay in the schedule, either through the time taken to get the lift working or, failing that, lifting the passenger on and off the bus. The delay in either case seems to have been between fifteen and twenty-five minutes, the longer time being necessary when more than one passenger was involved.

In the three years of operations, such delays were reported on only seven occasions. Four of these occurred in 1985, during the first four months of service. The other occurrences, one in

1986 and two in 1987, were reported as "lift did not go all the way down".

## 6.4 Lift Operations - Driver Reports

Difficulty with the operation of the lift was reported by drivers on twenty-six occasions and caused some unscheduled delays on nine trips, as shown in Table 20.

**Table 20**

**Delays Due to Lift Problems**

| Year | Reported Lift Problems | Schedule Delays |
|---|---|---|
| 1985 | 12 | 4 |
| 1986 | 4 | 1 |
| 1987 | 5 | 2 |
| 1988 | 5 | 2 |

1988 to July 31.

The problems the drivers reported were mainly electrical in the beginning but gradually became more mechanical in nature. In 1988 the reported problems refer to the lift sticking part way through the cycle and/or the under-floor locks not retracting properly.

## 6.5 Lift Problems - Driver Effect

Thirty-four Roadcruiser drivers are recorded as having operated the lift to board and set down passengers in service. Table 21 shows the frequency with which these drivers operated the lift in service during the three year demonstration period as recorded on the drivers' reports. Two drivers used the lift

only once in the three years, two used it twice and eight others used it four times or less. Twenty-five of the drivers who used the lift in service used it ten times or less over the three years. Only nine drivers used the lift more than ten times. These nine drivers reported eighty trip-operations and eleven functional problems over the three year period for a ratio of 1.4 problems per ten trips, slightly lower than the overall average, and significantly lower than the 1.8 average for drivers who used the lift only ten times or less in the three years. The correlation between problems encountered and frequency of lift use by the drivers suggests a likelihood that some of the report problems reflect driver unfamiliarity with the lift operation rather than failure of the lift equipment. This is also the basis for some passenger comment about the slowness of the lift and an occasional passenger reference to the driver not being entirely sure of how to operate it.

**Table 21**

**Frequency of Operation of Lift by Drivers in Scheduled Service**

| Frequency of Lift Operation Times | Number of Drivers | | | | |
|---|---|---|---|---|---|
| | Total | 1985 | 1986 | 1987 | 1988 |
| 21 to 34 | 2 | | | | |
| 11 to 20 | 7 | 2 | 1 | | |
| 5 to 10 | 13 | 6 | 4 | 4 | 3 |
| 4 | 4 | 3 | 1 | 1 | 2 |
| 3 | 4 | 4 | - | 4 | 3 |
| 2 | 2 | 4 | 10 | 4 | 3 |
| 1 | 2 | 8 | - | 4 | - |
| No. of Drivers | 34 | 27 | 16 | 17 | 11 |

1985 from February 1
1988 to July 31

## 6.6 Lift Operation - Passenger Comments

One of the striking aspects of the interviews with passengers who had travelled on the accessible bus was the frequency with which they referred to difficulties the driver experienced in getting the lift to operate properly. A couple of the passengers commented that they were more familiar with the operation of the lift than some of the drivers and that they sometimes were able to advise the driver on what to do. In general, most of the passengers felt that the difficulties experienced when they were travelling were due as much to driver inexperience as to any fault with the equipment.

The frequency with which passengers referred to lift problems would lead one to believe that on at least a third of the trips such problems were encountered either boarding or exiting or both. This would mean that on fifty or more passenger-trips there was some difficulty experienced with the lift compared to the twenty-six trips on which the drivers reported problems. It is likely also that the passengers were correct in believing that one cause of the difficulty was lack of driver experience in the operation of the lift, as Table 21 has pointed out.

## 6.7 Lift Operation - Assessment

Over the course of the three year demonstration period, the lift was operated a reported 283 times boarding and exiting passengers. This does not include operations at intermediate points such as meal stops where such use often occurred but was

not recorded. The actual number of times the lift was used in service is probably about 400.

Going solely by the reported operations, only two drivers operated the lift more than twenty times over the three year period. Even this rate of use is less than once a month on average. On an annual basis, the overall average rate of use of the lift by drivers in service was less than four times a year, which probably represents only two trips or less. Some drivers operated the lift only once in any year when they either took a passenger on board or let a passenger off on one occasion. The average driver of the accessible bus, therefore, operated the lift infrequently in service, certainly not often enough to become confident or easy with it. It is not surprising that, under these circumstances, the drivers as a whole were not comfortable with their role in operating the lift and when required to do so tended to take some time to study the situation and try to recall the procedures.

The drivers were instructed in the operation of the lift when the bus first went into service. This instruction was obviously required in the beginning even though it was not very successful over the long term. Follow-up instruction at intervals throughout the demonstration period could have been given and would have helped, but it is doubtful that it would have made any significant difference to the final results. An individual driver might get re-instructed but still not be required to operate the lift for months afterwards.

An obvious answer, and one mentioned frequently by passengers, would seem to be to assign a limited number of drivers to the lift equipped bus, train them thoroughly, and rely on the increased frequency of individual operation to keep their knowledge and competency current. However, in the Roadcruiser context, such a solution is precluded by the assignment provisions of the union working agreement and the difficulty of trying to create an assignment for only one bus in the fleet. With more buses an assignment might be possible.

The lift, when it was introduced into service, was billed as a new technological development, "state-of-the-art", computer assisted. When operating it, the driver used a hand-held terminal with printed readouts. It was intended to be simple, with the readout instructions on the hand-held control guiding the driver through the steps of the operation. But the "high-tech" aura submerged the simplicity. The drivers did not feel that it was a simple system; they felt it was a very complicated one, and were very sensitive to any mistakes they might make through lack of knowledge. It was also a fairly sensitive system which could be, and sometimes was, jammed by external factors or winter weather conditions.

The best solution would be to make the lift operation simpler, particularly the drivers role in it. Eliminate the "high-tech" aura and make the operation as ordinary and straight forward as operating an elevator in a building, where the user only has to press one button to go up or to go down and the machinery takes care of the rest. This would require re-

designing the driver in-put to a single control switch and integrating the safety interlocks so that they were automatically activated when the single operating switch was pressed. Such a simplification of the system is being designed into the bus lifts now being installed. The system in the latest Prevost Coach (1988) incorporates such control simplification and other improvements in the lift operating system.

A thorough mechanical inspection of the accessible bus and the wheelchair lift installation is also required. In the latter part of 1986, after nearly two years of service, the lift and associated systems were inspected by TES Limited. The inspection revealed no areas of undue wear to that time and recommended that the on-going maintenance program be continued. The inspection report concluded that the lift should continue to operate dependably for many years to come and also recommended that a further complete inspection should be performed in two years to ensure that any problems that might develop in that period were detected. The problems now being reported may be due to normal wear or may reflect some stresses developing in the bus shell or chassis. After nearly four years of operation, it is now time to give the mechanical aspects of the lift a thorough inspection and examine whether alignment of the bus frame is being affected.

# 7.0 ECONOMICS

## 7.1 Costs of Accessible Service

For the purpose of this review, the costs applicable to the accessible bus service are considered to be those specifically identifiable with the lift equipped bus and which are incurred because the bus is so equipped. These costs are:

- Extra Capital Cost of lift equipped bus.
- Maintenance of lift equipment.
- Extraordinary maintenance costs arising from or attributable to the lift installation.
- Operating costs of any schedule delays.
- Additional costs of promotion, administration and training specifically attributable to the accessible service.

These marginal costs, as can be seen, are a function of the number of lift equipped buses in the fleet, to a minor extent the number of employees involved, and not at all to the number of passengers carried in the accessible service.

## 7.2 Capital Cost of Lift

The installation of the wheelchair lift in Roadcruiser bus number 55 in 1984 was the first ever such installation; in addition to the initial installation costs there were significant costs for development and design work. The cost incurred in producing this first intercity bus equipped with an internal elevator lift totalled $441,000, made up of:

| | | |
|---|---|---|
| (a) | Cost of Bus | $191,000 |
| (b) | Design and Fabricate Lift and Restraint Systems | $183,000 |
| (c) | Install and Test | $ 67,000 |
| | Total | $441,000 |

The current price of an intercity bus, similar to those being operated in the Roadcruiser service, is in the order of $270,000. The addition of a wheelchair lift to the bus will increase the price by about $32,000. With the added 12% Provincial Sales Tax, the extra cost to Roadcruiser for a lift equipped bus would be about $36,000. Roadcruiser currently operates on an assumed life of twelve years for its buses. Under this assumption, the annual Capital Cost of the lift would be one-twelfth of $36,000 or $3,000 a year.

The lift now being offered by both MCI and Prevost, the two Canadian based intercity bus manufacturing companies, is much improved over the one in current use by Roadcruiser. It has been upgraded in installation and simplified in its use.

## 7.3 Maintenance of the Lift

The lift is maintained and serviced by the Roadcruiser garage. It is routinely serviced at regular intervals of 12,000 to 15,000 kilometers, or three to four week intervals. In addition, it is checked and cycled by the garage prior to the beginning of a trip on which it is known that a disabled person has space reserved. Unscheduled maintenance is performed in

response to reports from the drivers about problems experienced in the operation.

According to Roadcruiser garage records, the costs of maintaining the lift over the three year demonstration period totalled $3,713, as shown in Table 22.

**Table 22**

**Maintenance Costs of Bus Lift - Accessible Bus**
**February 1985 to January 1988 Inclusive**

| Item | Total Cost | Year | | | |
|---|---|---|---|---|---|
| | | 1988 | 1987 | 1986 | 1985 |
| Labour | $3,419 | $ 59 | $240 | $551 | $2,569 |
| Parts and Other | 294 | - | - | 149 | 145 |
| Total | $3,713 | $ 59 | $240 | $700 | $2,714 |

Nearly three quarters of this maintenance cost, amounting to $2,714, was incurred in 1985, the first year of operation and $2,128 of this first year cost was incurred in the first six months, as shown in Table 23.

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**Table 23**

**Costs of Lift Maintenance**
**January to June, 1985**

| Year 1985 | Labour | Parts | Other | Total |
|---|---|---|---|---|
| January | $ 495.60 | $ - | $10.02 | $ 505.62 |
| February | - | - | - | - |
| March | 576.80 | 11.75 | - | 588.55 |
| April | 67.20 | - | - | 67.20 |
| May | 669.20 | 115.22 | - | 784.42 |
| June | 173.60 | - | 7.90 | 181.50 |
| Total | $1,982.40 | $126.97 | $17.92 | $2,127.29 |

The relatively high costs associated with these early months represented a combination of minor problems, mainly electrical, which showed up when the service started, and difficulties associated with correcting these problems by garage personnel unfamiliar with the new equipment. When the initial equipment problems were corrected and the garage personnel became more familiar and confident with the system, these costs declined.

There is little cost history to go by when projecting future maintenance costs. Projections must take into account both scheduled maintenance, which is primarily labor involved in cycling the lift and checking locking devices, barrier gates, interlocks and safety devices; and unscheduled or extraordinary maintenance responding to in-service problems encountered by the drivers. In the first six months of 1988 there were four instances of lift problems noted on drivers' reports. These problems appeared to be related to malfunctioning of the underfloor locks and misalignment of the gate. Some of this might be due to lack of knowledge on the part of the driver but undoubtedly some of it has mechanical basis. It is estimated that future costs of lift maintenance will approximate $590 a year, made up of $240 for scheduled maintenance, inspection and routine servicing, and $350 for unscheduled repairs arising from problems occurring during the ordinary course of operations.

## 7.4 Bus Maintenance

The overall costs of maintenance for the accessible bus,

bus number 55, are not out of line with the costs for other similar buses in the Roadcruiser fleet. There are no significant variances in any cost element, calculated on a cents per kilometer basis, with the exception of maintenance of the lift and wheelchair restraint system which is unique to bus number 55. Buses numbers 53, 54 and 55 are all MC-9 coaches built by Motor Coach Industries of Winnipeg, Manitoba in 1984 to the same Roadcruiser specifications. The ordinary maintenance costs of buses 53 and 54 were taken as control comparisons for the costs of maintenance of bus 55.

For the eighteen month period, January 1, 1987 to June 30, 1988, which covered the last half of the demonstration period, the relative costs of maintenance were as shown in Table 24. The element of maintenance on which the greatest variance is apparent is engine maintenance, which is a reflection of an earlier engine replacement for bus 55 due to the greater operated mileage. Engine replacements for buses 53 and 54 are scheduled for this coming winter.

Taking the engine cost out of the comparison shows that the costs of maintenance compare as follows:

| Bus | Total Cost | Cost cents/km |
|---|---|---|
| 53 | $57,623 | 34.1 |
| 54 | $49,607 | 28.5 |
| 55 | $72,316 | 27.0 |

The maintenance cost for bus 55 while greater in total than the other two buses, is comparable on a cents per kilometer basis and, in fact, over the one and a half year period considered, was the lowest of the three on that basis.

**Table 24**

**Costs of Bus Maintenance**
**Bus No. 55 Compared to Buses Nos. 53 and 54**
**January 1987 to June 1988 Inclusive**

| Cost Category | Total Cost | | | Cost Cents/Km | | |
|---|---|---|---|---|---|---|
| | No. 55 | No. 54 | No. 53 | No. 55 | No. 54 | No. 53 |
| Cleaning, etc. | $27,658 | $18,018 | $18,767 | 10.3 | 10.3 | 11.1 |
| Regular Maintenance | 9,981 | 7,489 | 7,752 | 3.7 | 4.3 | 4.6 |
| Brakes and Running Gear | 8,378 | 5,842 | 6,892 | 3.1 | 3.4 | 4.1 |
| Tires & Wheels | 10,292 | 5,592 | 6,477 | 3.8 | 3.2 | 3.8 |
| Body | 5,795 | 2,812 | 3,745 | 2.2 | 1.6 | 2.2 |
| Engine and Trans. | 21,779 | 6,252 | 9,943 | 8.1 | 3.6 | 5.9 |
| Electrical | 6,287 | 5,089 | 8,433 | 2.3 | 2.9 | 5.0 |
| Wheelchair System | 494 | - | | .2 | | |
| Totals | $90,664 | $51,094 | $62,059 | 33.9 | 29.3 | 36.7 |

One element of cost where the installation of the lift might have been expected to make a difference in maintenance expense over the long term was in body maintenance costs. However, these costs, while higher in total, were about the same on a cents per kilometer basis for bus 53 as for bus 55 over the eighteen month cost review period.

Current cost data do not indicate that the installation of the lift has had any effect on bus maintenance costs, higher or lower. In the projection of future costs it is assumed that maintenance of the bus is not affected one way or the other by the lift installation and that there are no bus maintenance costs attributable to the lift outside of the cost of

maintaining the lift itself. A continuing history of bus maintenance costs over the next five years will allow for testing the validity of this assumption over the long term.

## 7.5 Toll Free Telephone Reservation Service

The three year demonstration service included the provision of a toll free telephone number to the St. John's Roadcruiser office from all telephone exchanges in Newfoundland. The toll free telephone service was discontinued at the conclusion of the demonstration period. This appears to have made little difference to the advance reservation practices of disabled travellers: intending passengers still call to make reservations. The provision of toll free service during the first three years seems to have established in the customer's mind the desirability of making advance reservations of wheelchair space.

The cost of the toll free telephone service increased over time, particularly as more people became aware of it and began using it as a general information line to TerraTransport. It is likely that less calls were made on the toll free number for accessible bus service reservations than for other Roadcruiser and TerraTransport matters unrelated to the accessible service. Based solely on the number of calls made for wheelchair space reservations, the cost per call was high. Table 25 shows the annual cost of providing the toll free service and illustrates the increase in cost which occurred year by year.

**Table 25**

**Cost of Toll Free Telephone Reservation Service**

| Year | Cost of Toll Free Reservation Service | Calls for Wheelchair Space Reservations | Cost Per Call |
|---|---|---|---|
| 1985 | $ 7,122 | 65 | $110 |
| 1986 | 10,613 | 40 | 265 |
| 1987 | 12,053 | 36 | 335 |
| Total | $29,788 | 141 | $211 |

A delayed charged from Terra Nova Tel of $12,264.10 for advertising the toll free listing in its directories, which was charged in September 1987 but which covered the whole period of the service, has been pro-rated equally over the three years, 1985, 1986 and 1987, for purposes of this comparison.

The listing for the toll free service did, to an extent, make the accessible bus service known to points off the main route and, by making it easy to do so from the very beginning, it established a practice of advance reservations which is continuing today. The benefits of providing the toll free reservation service however were not worth the cost.

If a new service were starting up, it would not be necessary or worthwhile to initiate a toll free service for reservations. Information on the availability of the service, which could also stress the desirability of making advance reservations, can be disseminated in less costly and more effective ways. Also, since many disabled passengers, while preferring to travel in the wheelchair, can also transfer to a regular bus seat, the problem of three or more passengers appearing for transportation on the same run is more an inconvenience than a

crisis. Based on the Roadcruiser experience to date, it will happen infrequently.

An alternative to toll free calling is to accept collect telephone calls for wheelchair space reservations. The present system on Roadcruiser is a mixed one: collect calls are accepted but often the customer, not knowing this, calls at his or her own expense. At a terminal where there is a Roadcruiser ticket office, customers can call locally and the subsequent communication is handled internally. The system appears to be working satisfactorily. What needs to be done is to inform customers, who have no access to a local Roadcruiser ticket office, about the provision for making collect calls to reserve space. Such a system puts the disabled passenger on an equal level with the non-disabled in respect of travel by Roadcruiser at minimum cost to the operation. It is estimated that the annual cost of such a system would not exceed $200 based on handling an average of 50 calls a year.

## 7.6 Cost of Meetings

Data on costs of meetings are presently available only for Roadcruiser costs incurred in Newfoundland and are:

| Year | Cost |
|---|---|
| 1985 | $883 |
| 1986 | $344 |
| 1987 | N/A |

These are local costs which also cover the joint committee meetings and would have been incurred, for the most part, in carrying forward the work of the Advisory Committee irrespective

of the accessible bus project. The frequent meetings and close involvement of the joint committees were important factors in the development and monitoring of the project and contributed greatly to its success.

In undertaking a service of this kind these costs should be accepted as necessary to the project since an advisory committee representing disabled passengers should be in place where such a service operates. As in the Roadcruiser project, the relatively modest costs would be well worthwhile.

For a continuing accessible bus service, an Advisory Committee of disabled travellers which would meet several times a year is recommended. Since the members of such a committee would be drawn from the local community, the cost would be minimal. Assuming a committee size of five or six members, and three meetings a year, the estimated annual cost should not exceed $1,000.

The Roadcruiser Advisory Committee was in place before the accessible bus was introduced. Roadcruiser is commited to continuing this committee and its contribution to Roadcruiser accessibility planning. There is, therefore, be no additional meeting costs to Roadcruiser specifically for the accessible service.

## 7.7 Costs of Promotion

### 1. Advertising

The advertising costs for the accessible bus service were

$3,330 incurred by Roadcruiser and $58,000+ in the overall project budget for general advertising, as shown in Table 26.

**Table 26**

**Costs of Advertising**

| Year | Roadcruiser | Project |
|---|---|---|
| 1985 | $ 597 | $28,000 (1)<br>$30,000 (2) |
| 1986 | 2,733 | - |
| 1987 | - | - |

(1) February - March 1985
(2) November - December 1985

The Roadcruiser expense was primarily incurred for special advertising of schedule interruptions such as the assignment of the bus to National Transportation Week ceremonies and a change in schedule in 1986. While this kind of advertising might, in a way, be considered promotional, it was nevertheless directed at people who already knew about and were using the service; it was presented over a very short time period; and it did not impact on a sizeable audience. It should be considered more in the nature of an expense associated with ordinary operations than one intended to enhance awareness of the service among potential users.

The accessible bus demonstration project was launched in February 1985 with a concurrent advertising program designed to inform the public generally and members of the disabled community in particular about a service that had never before

existed in Newfoundland. This initial advertising campaign was carried on primarily through newspapers and radio. It accomplished its objective in reaching disabled travellers. Use of the lift-equipped bus started quickly and, in numbers of disabled passengers carried, was higher in the first year than in any subsequent year of the three year demonstration period.

In November - December 1985, a special public relations advertising campaign was initiated to increase ridership and public awareness. In terms of increasing ridership, the campaign was not a resounding success. There were ten new passengers who tried the service for the first time in 1986 but the total ridership in 1986 was lower than in 1985.

It is wrong to evaluate an advertising campaign for the accessible bus service in terms of increased numbers of riders in any case. If accessible service was available every day then an increase in the number of riders would, perhaps, be a valid measurement of the success of the advertising campaign. But the way it is, with only one accessible bus operating, and only four accessible runs a week out of a total of 31 runs operated, the measurement of ridership or of changes in ridership, including increases, becomes more a measurement of supply rather than demand. The lesson from the ridership experience under Schedules 1 and 2 is that the demand for the service is there, that it is consistent, but it is not capable of being met fully with only one bus. If there was a second bus in service the

ridership figures might more than double.

The advertising programs were successful in raising awareness of the service in the disabled community, both potential users of the service and people in relevant organizations and agencies. While many people could not say precisely how they became aware of the service in the first place, the initial information likely started from someone seeing an advertisement or hearing a radio announcement.

A more pro-active approach would work better. Posters and brochures should not just be sent to the various organizations, agencies and hostels. They should be delivered by a Roadcruiser representative who would talk to the people there about the service and would follow-up on this process a couple of times a year. These continuing promotion/advertising costs would not be expensive, perhaps totalling less than $2,000 annually.

**2. Bus Displays**

The idea of displaying the bus is a good one, provided the target audience is the disabled and the elderly who are potential users of the service. Displaying the accessible bus would tie in easily with the direct promotional approach recommended in the previous section on advertising/promotion.

A combined program would have the bus visit selected locations, homes, hostels, social clubs, etc., where a short talk would be given by a uniformed driver, preferably one who has operated the lift in service. Following that, posters and brochures would be distributed describing the service and the

advantages it offers to users. At the same time the bus itself would be displayed demonstrating how the lift works.

In addition it would be a good idea to demonstrate the lift in action at the start of every trip, whether there is a disabled passenger on or not. This frequent operation would increase awareness among passengers generally; bring information to elderly passengers particularly; tend to gradually break down the "special service" connotation which makes people hesitate to ask for it; and give drivers opportunities to use the lift under service conditions. This involvement of the bus in the on-going promotion could be done at no or negligible additional cost to Roadcruiser.

**3. Video**

A video tape describing the accessible bus service was produced in 1985 at a cost of $1,250 which was costshared equally between Roadcruiser and Transport Canada. This tape was very well received by the people who saw it and drew much favourable comment when shown to interested groups such as the Canadian Bus Association at a meeting in 1985 and at a conference in Vancouver in 1986 on Mobility and Transportation of Elderly and Disabled Persons.

More promotional benefit could also be gained from this tape. It would lend itself to use in special programs on community television and interview shows on both community and commercial programs. It would also tie in with the direct promotion recommended earlier, as a visual aid to a talk on the

the service by a Roadcruiser representative.

#### 4. National Transportation Week

Participation in National Transportation Week activities between March 6 and March 15, 1986, cost $2,727. This participation served to promote the bus and the possible benefits of such accessible service elsewhere in Canada. It is doubtful, however, if there was anything gained of benefit to the Newfoundland service specifically in terms of promotion of the service relative to the cost incurred. It is not an item that could be considered as a normal or on-going cost of providing a scheduled accessible service.

### 7.8 Passenger Revenue

Revenue accruing from disabled passengers who travelled on the accessible bus in regular scheduled service during the demonstration period totalled $3,699, as shown in Table 27. In addition, special revenue generated in connection with the Stephenville Conference in 1985 amounted to $842 for a total revenue from the accessible bus operation of $4,541. Revenue derived from all Roadcruiser passengers covers approximately 70% to 75% of Roadcruiser costs. The contribution made by a disabled passenger in buying a ticket to travel probably covers costs to the same approximate extent as that of any other passenger, even taking into account the Roadcruiser tariff provision which allows a disabled passenger and an attendant to

both travel on one adult fare. Twenty-four, or about half of the identified passengers, travelled with an attendant. But since one of the benefits frequently mentioned by passengers was that the accessible bus made travel without an attendant possible for them, the numbers of attendants can be expected to decline. As well, this ability to travel independently will tend to encourage more disabled people to travel and to increase the travel frequency of those that do.

**Table 27**

**Revenue from Passengers Occupying Wheelchair Spaces in Accessible Bus - Regular Scheduled Service**

| Year | Passengers | Total | Revenue Per Passenger ($) | Cents Per Passenger Per km |
|---|---|---|---|---|
| 1985 | 55 | $1,510 | 27.45 | 7.0 |
| 1986 | 35 | 790 | 22.57 | 8.0 |
| 1987 | 33 | 1,206 | 36.55 | 7.4 |
| 1988 | 7 | 193 | 27.57 | 8.6 |
| Total | 130 | $3,699 | 28.45 | 7.4 |

In terms of new business, at least 11 passengers were travelling by Roadcruiser because of the lift equipped bus, accounting for 43 of the 130 trips made, or 33%. On this basis new revenue to Roadcruiser, because of the lift equipped bus, was in the order of $1,500 over the three year demonstration period, since several of the passengers travelled relatively long distances.

## 7.9 Summary of Financial Results

Financial results of the three year project are summarized in Table 28. Some of the costs were not wholly particular to the operation of the accessible bus service itself but are included to complete the record.

**Table 28**

**Financial Results of Accessible Bus Demonstration Project to February 29, 1988**

| Item | Total | 1988($) | 1987($) | 1986($) | 1985($) | 1984($) |
|---|---|---|---|---|---|---|
| 1. Lift Installation[1] | 441,000 | | | | | 441,000 |
| 2. Lift Maintenance | 3,713 | 59 | 240 | 700 | 2,714 | |
| 3. Bus Maintenance | - | - | - | - | - | |
| 4. Telephone Reservations | 29,788 | | 12,053 | 10,613 | 7,122 | |
| 5. Meetings[2] | 1,227 | | | 344 | 883 | |
| 6. Advertising: | | | | | | |
| Initial Program | 28,000 | | | | 28,000 | |
| Follow-up Program | 30,000 | | | | 30,000 | |
| Schedule Information | 1,809 | | | 1,212 | 597 | |
| 7. Bus Displays: | | | | | | |
| Stephenville[3] | 1,903 | | | | 1,903 | |
| Other Terminals | 1,149 | | | | 1,149 | |
| 8. Video | 1,250 | | | | 1,250 | |
| 9. National Transportation Week[4] | 2,727 | | | 2,727 | | |
| 10. Schedule Change[5] | 512 | | | 512 | | |
| 11. Training | N/A | | | | N/A | |
| | 543,078 | 59 | 12,293 | 16,108 | 73,618 | 441,000 |
| 12. Passenger Revenue[6] | 3,699 | 193 | 1,206 | 790 | 1,510 | |

[1]Includes cost of bus.
[2]Meeting cost incomplete - includes Roadcruiser data only.
[3]Includes credit of $842 for revenue earned.
[4]Includes cost of advertising schedule interruption $1,010.
[5]Printing schedules, etc. for schedule change - November 1986.
[6]Revenue from regular scheduled service.

# 8.0 PASSENGER MARKET

## 8.1 Disabled

It is estimated there are 2,750,000 disabled people in Canada, 11% of the Canadian population. This total is comprised of 302,000 children and 2,448,000 adults age 15 and older who report one or more disabilities. A high percentage of the adult group report problems involving difficulties in walking and moving about, which are combined, in many cases, with other agility limitations which restrict ordinary movements such as reaching or bending. These are the kinds of disabling conditions which make travel difficult. In the case of travel by bus they make entry and exit by the bus steps difficult and, in some cases, impossible. These problems increase with age and affect a high proportion of the elderly, putting nearly 40% of the elderly into the disabled category.

If the Canadian data are extrapolated to the Newfoundland situation on a population basis, the total Newfoundland disabled population can be estimated at 64,000 people made up of 7,000 children, 36,000 persons between the ages of 15 and 64, and 21,000 persons age 65 and over. The geographic distribution of adult disabled people in Newfoundland and the numbers of mobility impaired, between the ages of 15 and 64, is shown in Table 29.

Extrapolating from available information, there are approximately 9,100 disabled adults in Newfoundland who have mobility problems which require the use of mechanical aids or a wheelchair.

**Table 29**

**Geographic Distribution of Disabled Persons in Newfoundland Under Age 65**

| Region | Disabled Adults Aged 15-64 Years | |
|---|---|---|
| | Total | Mobility Impaired |
| St. John's | 10,400 | 2,700 |
| Eastern | 9,100 | 2,300 |
| Central | 7,500 | 1,900 |
| Western | 6,100 | 1,500 |
| Northern | 2,900 | 700 |
| Total | 36,000 | 9,100 |

## 8.2 Elderly

The elderly population in Canada represents about 10% of the total population and is expected to double over the next generation. By the year 2000 it is expected to increase by 67%, twice the overall population increase. The Newfoundland Health Review makes basically the same projection for Newfoundland: the size of the group 65 years of age and older is expected to double by the year 2001. As of 1981, the number of people in Newfoundland 65 years of age and older was estimated to be 44,000, which is expected to increase to 70,000 over the next twenty years. Table 30 shows the present distribution of persons age 65 years and older in Newfoundland.

**Table 30**

**Geographic Distribution of Disabled Persons 65 Years of Age and Older in Newfoundland**

| Region | Disabled Persons 65 Years of Age and Older | |
|---|---|---|
| | Total | Disabled |
| St. John's | 13,000 | 6,300 |
| Eastern | 13,000 | 6,400 |
| Central | 10,000 | 4,800 |
| Western | 6,000 | 2,700 |
| Northern | 2,000 | 800 |
| Total | 44,000 | 21,000 |

About half of the total, or approximately 21,000 persons age 65 years and older, report one or more disabilities. While the elderly population represent only 8% of the Newfoundland population the disabled elderly, as a group, constitute nearly 40% of the total disabled population. Applying a Canadian data base ratio to total numbers suggests that there are about 5,400 persons age 65 years and over in Newfoundland who have mobility problems requiring them to use mechanical aids or a wheelchair to get around.

## 8.3 Passenger Market

These two groups of mobility impaired persons could benefit from an accessible bus service. The estimated size of these groups is shown in Table 31.

**Table 31**

**Geographic Distribution of Mobility Impaired Adults in Newfoundland**

| Region | Mobility Impaired Adults | | |
|---|---|---|---|
| | Under 65 | Over 65 | Total |
| St. John's | 2,700 | 1,600 | 4,300 |
| Eastern | 2,300 | 1,700 | 4,000 |
| Central | 1,900 | 1,200 | 3,100 |
| Western | 1,500 | 700 | 2,200 |
| Northern | 700 | 200 | 900 |
| Total | 9,100 | 5,400 | 14,500 |

There are 14,500 persons in Newfoundland, comprising 9,100 disabled persons between 15 and 64 years of age and 5,400 persons age 65 and older, who have disabilities which restrict their mobility and whose travel would be made easier by the availability of accessible transportation.

The geographic areas from which the Roadcruiser service draws its passengers are mainly the central, western and eastern regions of Newfoundland. In the case of passengers for the accessible bus, they are mainly people who live temporarily in St. John's for work, education, or medical reasons and visit home, or those who live at home outside St. John's and travel to St. John's for the same basic reasons. In addition to these broad categories, there are other users of the service who visit family and friends between intermediate stations and a small number of people who travel relatively long distances infre-

quently and mainly for medical reasons. The size of the market, that is the number of potential passengers, is estimated as shown in Table 32.

**Table 32**

**Potential Passengers for Accessible Bus Service**

| Location Region | Persons with Mobility Limitations | | | Potential Passengers Accessible Bus | | |
|---|---|---|---|---|---|---|
| | Age 65 & Over | Under Age 65 | Total | Age 65 & Over | Under Age 65 | Total |
| St. John's | 1,600 | 2,700 | 4,300 | - | - | - |
| Eastern | 1,700 | 2,300 | 4,000 | 170 | 230 | 400 |
| Central | 1,200 | 1,900 | 3,100 | 600 | 900 | 1,500 |
| Western | 700 | 1,500 | 2,200 | 350 | 750 | 1,100 |
| Northern | 200 | 700 | 900 | - | - | - |
| Total | 5,400 | 9,100 | 14,500 | 1,120 | 1,880 | 3,000 |

## 8.4 Travel Pattern: Disabled and Non-Disabled Passengers

Table 33 shows the travel pattern for Roadcruiser passengers developed from a survey conducted by Roadcruiser from December 1985 to November 1986, compared to the travel pattern for disabled passengers using the accessible bus over the three year demonstration period.

**Table 33**

**Travel Pattern of Roadcruiser Passengers**

| Origin Station | All Passengers | Disabled Passengers |
|---|---|---|
| St. John's | 36% | 39% |
| Gander | 10% | 15% |
| Grand Falls | 14% | 8% |
| Corner Brook | 15% | 2% |
| Other | 25% | 37% |

The concentration of passengers at major terminals in the St. John's to Grand Falls section of the route was 60% for all passengers and 62% for disabled passengers. Clarenville, an intermediate station of some significance abut halfway between St. John's and Grand Falls, is relatively more important in terms of disabled passengers; inclusion of Clarenville passengers in the statistics would push the Grand Falls and East percentage for disabled passengers up to 71%, with the comparable figure for all Roadcruiser passengers being in the order of 65% or less. Nevertheless, the travel pattern for disabled passengers is basically the same as for all passengers in the Grand Falls and East section of the Roadcruiser route.

The main difference in travel pattern apparent from Table 33 is the lesser numbers of disabled passengers to and from stations west of Grand Falls. It is probable that all travellers, disabled and non-disabled, have similar travel

patterns on trips up to about 400 kilometers. In fact, for short trips disabled travellers may be more frequent bus users than average. For longer trips, however, they seem either to travel less frequently or else to choose a different mode - most often automobile, occasionally air.

Table 34 shows the comparison between all passengers and disabled passengers in terms of length of trips.

**Table 34**

**Bus Trips by Distance Travelled for Disabled and Non-Disabled Passengers**

| Trip Length | All Passengers | Disabled Passengers |
|---|---|---|
| Under 200 km | 17% | 25% |
| 200 to 450 km | 40% | 50% |
| Over 450 km | 43% | 25% |

Twenty-five per cent of all Roadcruiser passengers and 37% of disabled passengers start their trips at depots other than the major ones listed in Table 33. Over 50% of both groups have a permanent residence outside of these major centers. Forty per cent of all passengers and over 50% of disabled passengers report using the Roadcruiser service to visit friends and relatives. Eleven per cent of all passengers and 32% of disabled passengers use the bus for medical appointments and in

most cases they combine such trips with social visits. The alternative mode of travel was primarily the automobile which is used by 61% of Roadcruiser passengers in summer months dropping to 45% in winter. The automobile is by far the mode of choice and is always the mode used when it is available.

## 8.5 Travel Forecasts

Estimating demand for the Roadcruiser accessible bus service is fraught with difficulties. There are no firm data about the numbers of wheelchair users or their travel needs. The empirical data reflect only results from a service with limited availability.

It is assumed that a maximum of one third of the potential elderly passengers would travel and make on average one return trip a year. In the "under 65' category, the same estimate of travel frequency gives an annual trip total of 1,240 trips. Assuming that wheelchair users comprise about 10% of elderly disabled and one half of the under 65 group then the potential trips by wheelchair users calculates at 700 trips a year. Trips by other disabled people who experience some degree of difficulty with personal mobility, and who could be assisted by the lift in entering and leaving the bus, total an additional 1,300, as shown in Table 35.

**Table 35**

**Forecast Travel by Accessible Bus**

| Group | Travellers | | Passenger-Trips | |
|---|---|---|---|---|
| | Potential | Forecast | Wheelchair | Mech. Aids |
| Age 65 and over | 1,120 | 370 | 70 | 670 |
| Age 15 to 64 | 1,880 | 620 | 620 | 620 |
| Total | 3,000 | 990 | 690 | 1,290 |

One accessible bus with two available wheelchair spaces operating on a four trips per week schedule provides 400 trip-space units of transportation annually. Based on average trip distance and 100% occupancy rate, the maximum annual utilization would be in the order of 580 passenger-trips. The average seat occupancy rate of Roadcruiser service is in the order of 52%. Applying this occupancy rate would mean 300 passengers would use the wheelchair service annually, if the two wheelchair spaces were occupied to the same degree as other bus seats. As Table 35 shows, the disabled passenger market is not large enough for that.

The accessible service is available to wheelchair passengers on 200 out of 1,600 trips operated annually or on one out of eight trips. Assuming that trips by disabled passengers in wheelchairs could be evenly distributed across the schedule, then the number of trips that might be made in the accessible bus in a year would be 86, one eighth of 690. This could

perhaps be raised up to 100 trips, taking into account that the accessible bus would operate on the best utilized schedules. This suggests that a rate for wheelchair occupancy of 12% to 15% would represent maximum normal use. The actual occupancy rates during the demonstration period were 8.8% in 1985; 3.4% in 1986; and 4.4% in 1987.
Considering the limitations that a one bus schedule imposes on a traveller, this is good.

The actual ridership experienced in 1985, the first year of the demonstration project, approached the calculated ridership to be expected in a year and represents an achievable level for one bus. The relatively high ridership in the first year represents passengers hearing about the new service and trying it out for the first time. Having experienced it and knowing what it could do for them, they then, like other Roadcruiser passengers, chose to travel at personally convenient times which did not always coincide with the accessible bus schedule. Also, some of them were first time bus users who were encouraged to travel on the bus by the availability of the accessible service and once having travelled felt confident enough to continue with bus travel on the non-accessible buses.

The use of the accessible bus can be expected to increase very gradually over time. The service will continue to be used consistently by a core group of about ten passengers, and a few more people will feed into the system each year, so that

there will be a very gradual growth trend over the long term. With scheduling more closely matching the preferred travel days of disabled travellers, the passenger-trips should reach 50 a year immediately and then gradually increase to around 70 a year. As long as there is only one bus in service the annual ridership probably won't exceed that number.

Introducing more accessible buses would have a significant effect in accelerating growth. The increased availability of service would allow a disabled traveller more flexibility in planning a trip and make it more likely that the trip was made by bus. The Roadcruiser experience suggests that, once having developed the confidence to try bus travel, the disabled traveller will continue to use the bus and, after getting used to it, will also tend to use the non-accessible buses for greater schedule freedom.

Travel by disabled adults under age 65 will likely increase at a greater rate than that of the population generally. However, since elderly persons represent a large and growing segment of the disabled population and travel less frequently, the overall rate of growth of travel by disabled persons might be less than that of the population as a whole.

The maximum passenger volumes can not be attained until travel by an accessible bus is available on all Roadcruiser schedules; until disabled people themselves have mastered their own mobility problems in a local environment and feel confident in their ability to travel independently; and until assistance by the lift for passengers entering and leaving the bus is

provided as a matter of course and not as a matter of "special" service.

Much good work is being done by many people in agencies and organizations to assist disabled persons achieve a measure of independence in their lives, to master the problems of local mobility, and to widen their travel horizons. This is evident in the young adult passengers who are users of the accessible bus service. Roadcruiser can contribute by making use of the lift more as a usual and ordinary way to enter and leave the bus. This would encourage more people to use it, and make bus travel easier for elderly and disabled people. These already on-going and easily possible activities will tend to increase the use of Roadcruiser bus service by disabled people.

Increasing the availability of accessible schedules however will be less easily accomplished. It will require the commitment of capital funds for new buses and will be a slower process, perhaps related to the bus replacement schedule.

# 9.0 ASSESSMENT

## 9.1 Perceptions of the Service: Agencies and Organizations

There was generally a very positive view of the service among the staff of organizations devoted to the support of disabled people. With only one exception, they were all aware of the service and generally had become aware of it through members of the organizations. In two cases the administrators had also followed up on the initial information by contacting Roadcruiser themselves for more detailed information.

There was a feeling that intercity travel should be more accessible to disabled people and that demand for such service will grow slowly as more people use the accessible bus and become familiar with its advantages. The organizations as a whole felt that most disabled people cannot travel long distances without some medical/personal assistance procedure being required and provision of an accessible washroom on the bus or frequent rest stops must be seriously considered.

There was a general feeling that the service is underutilized now, but there will be an increasing need for it in the future. It will gradually catch on, particularly with younger disabled people. Since many of the services needed by disabled people are centered in St. John's, regular affordable travel is needed to enable a disabled person to travel back and forth between home and St. John's with ease. Newly disabled people usually get a lot of family attention in the initial stages of their disability but after a time become more on their own.

This is the time when the accessible bus becomes a travel option for them.

There should be more and better publicity on the service, how it works, and the advantages it offers to disabled travellers. Such information should be disseminated through the various organizations involved with disabled people. The main difficulty many of them saw with achieving greater use of the service was the limited schedule and the lack of accessible connecting services.

The elderly constitute a separate population. There seems to be almost no awareness among the people in the various organizations of the potential advantage of the lift to mobility impaired persons not in wheelchairs. The general reaction was one of vague awareness: they had probably seen the service advertised in the senior's and community newspapers and understood it was exclusively for wheelchair passengers.

The head of one senior's organization said that he could not remember hearing about the service at all and first became aware of it when he made a trip on a Roadcruiser bus, which he frequently does, and saw the wheelchair lift being used. His organization has 7,000 members. He thinks that many of them travel by bus and that some promotion should be directed to the walking disabled which would make the service better known and better utilized. Increased use of the lift by the walking disabled, particularly with the present equipment, would perhaps increase the frequency of schedule delays, but it would also increase the frequency of driver operation of the lift and tend to make use of the lift more of an everyday occurrence. On

balance, it would be advantageous to the service.

There was a general feeling in the organizations that three years is not really long enough to permit a valid assessment. People are still hearing about the service for the first time, they are trying it out, and this process will continue. They felt that eight to ten years would not be too long a time and even then, if more frequent schedules cannot be introduced, the full demand would still be hidden.

## 9.2 Perceptions of the Service - The Drivers

The drivers seem to be developing some negative feelings about the accessible service. In discussions with drivers, the first reaction was to talk about the problems the service creates, the biggest one in their view being the lift itself. They described it as "too complicated to operate" and too easily subject to interruptions from conditions encountered on gravel parking lots or snow covered ground. The safety gate in the vehicle was described as being "too touchy." They claimed that they have problems with the baggage space as they attempt to leave the compartment under the lift clear of baggage at all times in case an unreserved passenger should show up. They referred to a few cases where baggage was carried inside the bus on the seats because the lift compartment had to be kept clear.

Another problem referred to was the loss of time at meal stops when wheelchair passengers had to be unloaded from the bus and then re-loaded to continue the journey. They had the choice of either delaying the bus departure or giving up their own meal

time, neither option being without its problems in their view.

The basis for most of the problems stems from difficulties with operating the lift and the time it takes a driver to load and to unload a wheelchair passenger. A simplified operating mechanism for the lift and a slightly faster lifting rate would reduce the drivers' problems and improve their view of the service. The slowness of the lift operation was also mentioned by several passengers who said that they were forced to wait outside the vehicle while the lift descended slowly.

## 9.3 Perceptions of the Service - Disabled Non-Users

Four disabled people who had never used the accessible bus were interviewed. All but one knew about the accessible bus and were generally familiar with how it worked and the assistance it could provide to disabled travellers. They had friends who had used the bus and reported very positive responses to the service.

Judging by the level of knowledge among disabled non-users it can be concluded that there is a widening awareness of the availability of the service and that most of the information is being passed around person to person among disabled people.

There are still segments of the disabled community that, while they have heard about an accessible Roadcruiser bus, do not know exactly what it is, how it works, or how it might enlarge their own travel options. More promotion is required, especially through organizations and social clubs, which would stress the advantages of the accessible bus for all

transportation handicapped people, not just those in wheelchairs.

The bus display program, which was not very successful in reaching the general population, should instead have been more sharply focused on the disabled. The bus should have been displayed at locations used by disabled people instead of at shopping malls.

## 9.4 Perception of the Service: Passengers' Views

The typical user of the accessible bus service is a young adult, under forty years of age, who uses a wheelchair to get about; makes four trips a year on the Roadcruiser service, visiting family and friends, two of them on the accessible bus; has been using the accessible bus for two years; and would prefer to use it on all trips but feels that the schedule is not always convenient.

Generally speaking, the people who continue as regular users of the accessible service are those who travel in a wheelchair on the bus and are flexible in their ability to select their days of travel according to the accessible bus schedule. Most of them travel for social reasons, visiting family and friends, and where medical reasons apply, there is generally a social connotation as well.

While all the users of the accessible bus would prefer it over the non-accessible bus as a way to travel, only half of them see it as really essential to their travel needs. Half are prepared to travel on any Roadcruiser bus, finding that being

lifted or otherwise assisted aboard is not comfortable but not seriously objectionable. The people who feel that the accessible bus is essential to their travel object to being lifted and would consider the private automobile as the only suitable alternative.

Almost all of the frequent users of the service, 80%, live in communities served by the bus. Only 20% live in communities that are distant from the bus station and have to use other transportation to their homes. In these cases the most widely used vehicle is a family owned van fitted to accommodate a wheelchair, followed by private automobile owned by a family member or a friend.

Only 25% remembered finding out about the service from advertisements in newspapers or on radio. Almost as many became aware of the service from the listing for the toll free reservation number in the TNT telephone directory. The most frequent knowledge came from other people by word of mouth, mainly through agencies for the disabled. This begs the question of where the initial knowledge came from in the first place. It seems likely that most of the users became aware of the service because someone saw an advertisement in the newspaper or heard an announcement over the radio, and talked about it to other disabled people.

One unusual situation was where three disabled people were being interviewed as a group. Two of them knew about the service and had used it. The third, who was a frequent traveller by Roadcruiser, had never used it or heard about it.

The three of them interacted regularly in activities at a group hostel. It came as a surprise to two of them that the third did not know about the service.

From the passengers' point of view the main advantage of the accessible bus service is the independence it provides to the disabled traveller. Many travellers say they would not agree to being lifted on and off the bus except perhaps under circumstances of extreme need to travel at a particular time. A typical reaction was that of the user who said that when he was growing up he was lifted around and put up with it, but since he is an adult he will not be lifted and would not travel on a bus that required that he be lifted aboard.

The accessible bus has made a difference to the travel habits of the disabled people using it. Prior to the accessible bus, travel depended upon the availability of transportation by relatives or friends. With the accessible bus a disabled traveller achieves a measure of independence and can make travel plans on his own without having to rely on the goodwill of others. For many disabled persons who used to be lifted aboard it means that they no longer have to be concerned about arranging an attendant to travel with them. As one passenger said:

> "Prior to the accessible bus my trips depended upon the availability of transportation by relatives and

> friends. If I had to travel by bus it would require arranging for an attendant to go with me. This is the main advantage for me: the independence in travel."

Another passenger said that:

> "After our daughter was born my husband quit his job and we moved to St. John's where treatment was available. If the bus had been on ten years ago we wouldn't have had to do that."

Some of the difficulties with the service that were mentioned by disabled travellers were the limited schedule; lack of shelter; lift problems; and time at meal stops.

**Limited Schedule**

> "If the accessible bus is not available my trip has to be cancelled ... unless I can find a friend with a car who is going my way."

One wheelchair passenger, user of the service, referred to a recent trip from St. John's to Clarenville. On the day she had to leave for Clarenville the accessible bus was "broken down" so she travelled on the regular bus. On the day she was due to return the accessible bus was not operating. If she had

changed her own schedule to meet that of the accessible bus she would either have had to miss one day of the conference she was attending or else incur an extra day's accommodation charge, neither of which she wished to do. This problem obviously stems from the fact that only one bus is available to provide the accessible service. It will be solved only as more accessible buses are introduced into the Roadcruiser fleet as buses are being replaced.

**Lack of Shelter**

> "The lift is slow operating and while the platform is being lowered and the doors opened the disabled passenger is waiting on the sidewalk. Also it occasionally happens that the lift won't work or stops partly through its operation. In these cases the passenger must wait, exposed to the elements, while the driver tries to get the lift operating properly."

The passenger quoted generally travels between St. John's and Clarenville and he was referring to conditions at these locations. St. John's is the main Roadcruiser terminal used by half of all disabled passengers. Now that train service is discontinued, some improvement in the terminal arrangement at St. John's might be possible, by moving the bus loading bays to the south side of the building under the platform.

This problem was also raised by other passengers with respect to the station at Deer Lake. Deer Lake station is inaccessible to people in wheelchairs, so that the disabled passenger joining the bus at Deer Lake must wait outside not only while the lift is being deployed, but also while waiting for the bus to arrive. There is also the added difficulty that the passenger has no access to the washrooms, ticket counter, or any facilities of the Deer Lake station. If Dear Lake station is to continue as a Roadcruiser depot, correcting this situation should be a priority.

**Lift Problems**

> "The driver appeared to know how to operate the lift but wasn't really sure if he was doing the right things or doing them in the right order."

The passengers' comments about problems with the lift have already been covered. A simpler operating lift is required.

**Time At Meal Stops**

From the drivers' point of view the meal stops are a particular problem. These stops are scheduled for thirty to forty minutes, during which the driver has to supervise the exiting and later re-boarding of his passengers, look after the baggage and parcel express traffic at that station, usually one of the

busier ones, and get his own meal. Any time taken unloading and later re-loading passengers in wheelchairs comes out of his own meal time.

The wheelchair passengers themselves are also aware of the problem. Many of them referred to it. Generally they want to get off at these stops and feel apologetic about the perceived inconvenience it creates. As one passenger explained, "After all, the driver has to get his dinner, too." One wheelchair passenger said she does not get off at meal stops because she knows that time is short and she does not want to pressure the driver. She usually gets a sandwich brought aboard to her by another passenger or by the driver.

The average wheelchair passenger trip is about 400 kilometers, which indicates that one meal stop is likely. At present levels of wheelchair passenger traffic, the situation could be handled by accepting some degree of slower than scheduled operation on trips where wheelchair passengers are travelling.

Other suggestions and recommendations coming from disabled people who were using the service included:

1. **More frequent rest stops:** Some disabled passengers, a minority, require more frequent stops. Passengers in wheelchairs can now leave the bus at meal stops which are four to five hours apart. Such intervals are suitable for

most passengers. However, it should also be possible for a wheelchair passenger to exit the bus at intermediate stops such as Clarenville, when the passenger feels the need to do so.

2. **Inaccessible washrooms:** There were suggestions that the bus should have an accessible washroom. This seems like a good idea at first glance, but a washroom on the bus, no matter what size it was, would still be inaccessible to a wheelchair user while the bus was moving. It would allow a wheelchair passenger access to the washroom at intermediate stops and tend to solve the problem of more frequent stops and consequent delays. However, it would have to be at the expense of seating capacity. More frequent stops on request would be a better solution.

## 9.5 Financial Viability

The financial results of the demonstration service are summarized in Table 36.

**Table 36**

**Financial Results**
**Three Year Demonstration Project**

| Item | Total($) | 1988($) | 1987($) | 1986($) | 1985($) | 1984($) |
|---|---|---|---|---|---|---|
| Revenue | 3,699 | 193 | 1,206 | 790 | 1,510 | - |
| Cost | 543,078 | 59 | 12,293 | 16,108 | 73,618 | 444,000 |
| Net | (539,379) | 134 | (11,087) | (15,318) | (72,108) | (441,000) |

There was a net cost each year until the final year, 1988, when, based on the results of the first two months, the revenue realized more than covered the marginal costs. Over the three year period of the project, the recorded costs are $543,078. The revenue realized was less than one percent of the costs incurred and the cost per trip, over the three year period, was over $4,000. For an on-going accessible bus service the initial start-up costs will not be repeated and other costs will be lower than those incurred by the demonstration project.

Table 37 summarizes the forecast results of a continuing accessible Roadcruiser service using the one accessible bus operating on the original schedule, Schedule 1, and based on marginal costing principles.

**Table 37**

**Roadcruiser Accessible Bus Service**
**Forecast Financial Results - Annual**
**(Based on 1988 Costs and Tariff)**

| | |
|---|---|
| Costs: | |
| Capital Cost of Lift | $3,000.00 |
| Lift Maintenance | 600.00 |
| Telephone Reservations | 200.00 |
| Meetings | - |
| Advertising Promotion | 2,000.00 |
| Total Annual Cost | $5,800.00 |
| Revenue: | |
| 70 Passengers | 2,400.00 |
| Unrecovered Costs | 3,400.00 |
| Cost Per Passenger-Trip | 49.00 |

It is estimated that the net annual cost to Roadcruiser of providing and promoting the present one-bus accessible service would be in the order of $3,000 to $4,000 and the cost per passenger will be around $49.00. On purely financial terms the accessible service will not be viable for one bus operation or for any number of buses in the service, although, as more buses are assigned, the cost per passenger will decline. Accessible service, therefore, will not be successful measured only in financial terms. The revenue generated will cover only about half of the marginal costs of providing the service.

To offset this, financial assistance to cover the additional cost of equipping a bus with a wheelchair lift should

be provided as a subsidy to the bus owner, when the bus is going to be used in public passenger transportation service.

## 9.6 Non-Financial Considerations

Services such as the Roadcruiser accessible bus are bound to be non-viable when assessed solely on the basis of the financial relationship between costs, even marginal costs, and passenger revenue. Consequently an operator will find no economic justification for investing limited resources in aids to disabled travellers, particularly expensive items like bus lifts, which will be used infrequently and by only a small number of passengers.

If no justification for the service can be made on financial grounds, are there other grounds? How much weight and importance should be attached to non-financial considerations: the general benefits of increased mobility for the disabled people served by the transportation system; the increased educational and employment opportunities which accessible transportation makes available to disabled people; and the benefits which accrue to society generally when the lives of any of us are enhanced in these ways?

A reasonable right to mobility, ie., low cost transportation, is basic for disabled people. Providing such transportation in an effective manner at the lowest cost should be an objective. The accessible bus system has met a transportation

need, albeit inadequately because of supply constraints, and has provided disabled travellers with intercity bus transportation comparable to that enjoyed by non-disabled travellers.

It is impossible to put a quantifiable value on the qualitative benefits that are flowing from the accessible bus service. Many individual cases exist where the availability of the accessible bus has immeasurably improved the quality of life of a user of the service. One wheelchair user makes a yearly vacation trip visiting family, a trip which would be impossible for him without the accessible bus. He is blind, has other serious health problems, and is confined to a wheelchair. Another individual at the University in St. John's visits home several times a year, which would also be impossible without the accessible bus. There are a significant number of such individual cases where the impact of the accessible bus on people's lives has been beneficial.

As a service to disabled passengers the accessible bus project must be rated a success. It is making travel easier and more comfortable for disabled people; it is successfully meeting the essential needs of many of them; and it is giving all disabled people the opportunity for independent travel. For some disabled people removal of the accessible bus from the Roadcruiser schedule would have the effect of either denying them the opportunity to travel at all or, by making travel more complicated and expensive, would reduce the ease and frequency

of their travel.

The use of the accessible bus service by disabled passengers other than wheelchair users has been negligible. There are passengers, particularly elderly passengers, using the bus service who do not use the lift even though they have difficulty negotiating the bus steps. Expanded use of the lift by these passengers should be an objective.

Encouraging disabled people to travel will be a progressive process. The demand for the service, even at its present level of availability, will grow as disabled people learn that the accessible bus system is easy for them to use and that they can travel by bus with independence and comfort.

## 10. CONCLUSIONS AND RECOMMENDATIONS

1. The Roadcruiser accessible bus service, operated as a demonstration service between February 1985 and February 1988, met its objectives. It successfully met the intercity transportation needs of many wheelchair passengers and showed that integrated, accessible intercity bus transportation on a scheduled basis is feasible. There was minimal effect on the regular service in terms of schedule performance.

2. The Roadcruiser service has had a policy providing for lifting assistance to disabled passengers since 1981. However a high proportion of disabled travellers will not accept being lifted on and off a bus for personal and physical reasons. The bus lift provided these people with an acceptable level of service which made intercity bus travel possible for them.

3. Two wheelchair spaces in the bus proved to be adequate at present and foreseen levels of passenger traffic.

4. Advance reservations for wheelchair space should continue to be a passenger option but toll free telephone service for making advance reservations is not warranted.

5. There were unavoidable constraints on the availability of the accessible service because there was only one accessible bus. With limited availability the bus operating schedule should be structured to serve the greatest number of wheelchair passengers. The majority of the users of the

service are located between St. John's and Grand Falls and there was a demonstrated need for weekend service between these stations. The schedule should therefore provide for such a service, ie., revert to Operating Schedule No. 1.

6. The bus was used by about sixty people over the three year period. There is a core group of about ten passengers, which will probably grow by one or two people a year, who use the accessible bus consistently. The majority of disabled passengers, however, while preferring the accessible bus, also travel on non-accessible buses because of the limitations on availability of accessible service.

7. Promotion of the accessible service should be carried out regularly by Roadcruiser directly to disabled groups, organizations, and agencies. This should take the form of talks on the advantages of the service by Roadcruiser personnel, accompanied by the distribution of informational literature and display of the bus and the lift in operation. As well the lift should be operated by the driver at the start of every trip, both as a way of encouraging use of the lift by passengers who could benefit from it, and also as an instructional exercise for the driver.

8. Action should be taken to make all the bus depots accessible to people in wheelchairs, particularly the station at Deer Lake if that station is to continue as a regular user depot. Some improvement to the facility layout at St. John's may be possible now and should be considered.

9. The bus and particularly the lift should be given a

thorough examination as to the alignment and operation of the lift, the under-floor locks and the safety gate. If possible the lift operation controls should be replaced with a simpler system that would make the operation easier and less intimidating for the driver.

10. Periodic reporting on the results of the accessible bus operation should be reinstated. An important element in this is the driver's report form. This form should be revised to show the name of the passenger using the lift and the use of the lift at intermediate stations such as at meal stops.

11. The relative success of the accessible service cannot be measured solely in terms of the numbers of disabled passengers who travelled on the accessible bus. The unavoidable constraint on the availability of the service because of a one bus operation made the count of passengers using the service more a measurement of supply than of demand.

12. A three year demonstration period is too short for a project such as this. Some of the disabled peoples' organizations suggested eight to ten years as a more appropriate period. Five years should be the minimum and in the case of this Roadcruiser demonstration it is recommended that all the reporting mechanisms be continued and another review and assessment be made at the end of five years.

13. Revenue generated during the demonstration service did not meet operating costs, even calculated on a marginal basis.

A continuing accessible service will also not generate sufficient revenue to cover operating costs and will not be financially viable.

14. Since a scheduled accessible intercity bus service cannot be commercially viable, even on marginal terms, financial assistance in the form of a subsidy to cover the extra cost of making a bus wheelchair accessible should be available for purchase of buses which will be operated in such public passenger transportation service.

## APPENDIX 1

### Roadcruiser Policy on Service to Handicapped Passengers

1. Company owned terminal buildings and related facilities will be made accessible for handicapped passengers to the greatest extent possible. Existing terminals will be modified on a progressive basis to achieve this objective.

2. Special boarding of handicapped passengers will be arranged on request at terminals where Roadcruiser personnel are employed.

3. Wheelchairs are provided at some terminals and will be made available on request to passengers requiring such assistance between the terminal and the side of the bus.

4. Handicapped passengers who experience difficulty in getting on and off the bus will be assisted by the driver and/or terminal personnel, where feasible, and where such assistance can be provided without risk to the passenger concerned, other passengers, the driver or terminal personnel. Such assistance will include manual lifting when requested by the passenger and where it is known that personnel will be available at the destination station as required.

5. Passengers who are disabled to the extent that they are unable to board the bus even with assistance must be accompanied by an attendant.

June 1, 1981
TerraTransport
St. John's, Newfoundland

## APPENDIX 2

### Members of the Roadcruiser Advisory Committee on Transportation of Disabled Travellers

Members and organizations represented:

| | |
|---|---|
| **Consumer Organization of Disabled People of Newfoundland and Labrador (COD)** | |
| Irene McGinn | April 1982 - April 1985 |
| Adrian Battcock | April 1985 - |
| **Association for the Deaf** | |
| Hammond Taylor | April 1982 - |
| **Canadian National Institute for the Blind (CNIB)** | |
| Eugene Pike | April 1982 - |
| **The HUB** | |
| Doug Vicars | May 1982 - April 1985 |
| David Scott | October 1985 - |
| **Newfoundland and Labrador Association for the Aging** | |
| Joyce Nevitt | July 1982 - |
| **Canadian Transport Commission (CTC)** | |
| Robert Martin | May 1982 - April 1983 |
| Deana Silverstone | May 1982 - April 1983 |
| Marion Fleming | August 1983 - |
| Jo Pasternak | February 1984 - |
| Jack Gaum | January 1985 |
| Kathie Wells | October 1985 |
| Lynn Sloan | January 1986 |
| **National Transportation Agency (NTA)** | |
| Jayne Dumont | August 1988 |
| **Transport Canada** | |
| John Pringle | May 1982 - |
| Susan Pond | May 1982 |
| Milton House | August 1983 |
| **Newfoundland Government** | |
| Ed O'Brien | February 1984 - |
| Steve Bugden | |
| **Roadcruiser** | |
| Fabian Kennedy | April 1982 - August 1986 |
| Bren Everard | August 1986 - |

## APPENDIX 3

**Members of the Management Committee**
**Accessible Bus Demonstration Project**

| | | |
|---|---|---|
| Transport Canada | | |
| | Milton House | Chairman of the Committee |
| Canadian Transport Commission | | |
| | Marion Fleming | August 1983 - October 1984 |
| | Jack Gaum | June 1985 - |
| Roadcruiser Advisory Committee | | |
| | Irene McGinn | August 1983 - April 1985 |
| | Adrian Battcock | April 1985 - |
| Roadcruiser | | |
| | Fabian Kennedy | August 1983 - August 1986 |
| | Bren Everard | August 1986 - |

## APPENDIX 4

### Meetings of Committee

| Meeting | Date | Committee |
|---|---|---|
| 1985 | | |
| 1 | April 23 | Sub-committee of Advisory Committee |
| 2 | May 27 | Advisory Committee |
| 3 | July 13 | Advisory Committee |
| 1983 | | |
| 4 | April 26 | Advisory Committee |
| 5 | May 10 | Advisory Committee - Conference Call |
| 6 | August 3 | Management Committee |
| 7 | August 4 | Joint Advisory/Management Committee |
| 1984 | | |
| 8 | February 23 | Advisory Committee |
| 9 | October 11 | Management Committee - Ottawa |
| 10 | November 7 | Joint Advisory/Management Committee |
| 11 | November 13 | Advisory Committee |
| 1985 | | |
| 12 | January 28 | Joint Advisory/Management Committee |
| 13 | March 5 | Joint Advisory/Management Committee |
| 14 | April 16 | Joint Advisory/Management Committee |
| 15 | June 27 | Management Committee |
| 16 | October 9 | Joint Advisory/Management Committee |
| 17 | October 16 | Advisory Committee |
| 1986 | | |
| 18 | January 22 | Joint Advisory/Management Committee |
| 19 | June 10 | Joint Advisory/Management Committee |
| 20 | August 26 | Joint Advisory/Management Committee |
| 1987 | | |
| 21 | February 11 | |
| 1988 | | |
| 22 | February 23 | Joint Advisory/Management Committee |
| 23 | August 25 | Joint Advisory/Management Committee |

Transport Canada Transports Canada

APPENDIX 5

# INFORMATION

No. 11/85 For release
January 28, 1985

INTERCITY BUS SERVICE FOR THE DISABLED INTRODUCED IN NEWFOUNDLAND

ST. JOHN'S - Disabled travellers in Newfoundland are now being served by a specially equipped intercity bus, the first of its kind in commercial use in North America.

Justice Minister John Crosbie announced today on behalf of Transport Minister Don Mazankowski, that the bus, designed to accommodate physically disabled passengers, has been added to CN's TerraTransport Roadcruiser fleet.

The bus is in service as part of a three-year Transport Canada demonstration project, Mr. Crosbie said. Integrated into Newfoundland's regular intercity bus system, the special bus will provide weekly service between St. John's and Port aux Basques during the week and one round trip between St. John's and Grand Falls on weekends.

Access to the bus for disabled passengers is provided by a self-contained hydraulic lift designed and installed by TES Ltd., of Ottawa, under contract to Transport Canada. Wheelchairs can be accommodated and secured in the bus.

Mr. Crosbie also announced new accessibility standards for the Roadcruiser bus service. The standards were developed by Transport Canada in consultation with the Advisory Committee for Transportation of Disabled Persons in Newfoundland. Drivers are receiving special training in recognizing and dealing with the assistance needs of disabled travellers.

The demonstration project will help determine the market for this type of bus service, assess the impact on current schedules and performance, and establish the potential for assisting disabled travellers in other provinces.

Canada

.../2

The project will be managed by a committee chaired by an official from Transport Canada and having representatives from the Canadian Transport Commission (CTC), Roadcruiser management and the Advisory Committee for Transportation of Disabled Persons in Newfoundland.

The advisory committee, which provided advice to the management committee for the Roadcruiser demonstration project, is comprised of Irene McGinn, chairperson; Eugene Pike, Canadian National Institute for the Blind; Doug Vicars, the Hub; Joyce Devitt, Council for the Aging; Hammond Taylor, Council for the Deaf; Fabien Kennedy, Roadcruiser management; and Ed O'Brien, Provincial Department of Transportation.

The 1981 parliamentary report of the special committee on the disabled and the handicapped recommended the federal government provide accessible intercity bus service for the disabled in Newfoundland.

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Contact: Tom Van Dusen
Minister's Office
(613) 996-4006

Bruce Reid
Public Affairs, St. John's
(709) 772-4328

## APPENDIX 6

### Roadcruiser Schedules

Roadcruiser Schedule 1: February 1, 1985 to November 2, 1986

Roadcruiser Schedule 2: November 3, 1986 to February 29, 1988

**Special Services**

A wheelchair accessible bus operated on the following schedules:

Schedule 1:

Run 503 - Tuesdays, St. John's to Port aux Basques
Run 504 - Wednesdays, Port aux Basques to St. John's
Run 517 - Fridays, St. John's to Grand Falls
Run 520 - Sundays, Grand Falls to St. John's

Schedule 2:

Run 503 - Wednesday/Saturdays, St. John's, to Port aux Basques
Run 504 - Thursdays/Sundays, Port aux Basques to St. John's

Space is available in the bus for two passengers occupying wheelchairs while in transit. Wheelchair space may be reserved in advance of the day of travel by calling the Roadcruiser Office in St. John's between 7:30 a.m. and 7:30 p.m. - Toll Free 1-800-563-5944. St. John's residents call 737-5944.

# SCHEDULE 1

READ DOWN — A.M. - LIGHT PRINT, P.M. - DARK PRINT — ST. JOHN'S - PORT-AUX-BASQUES — READ UP

| | ♦ Daily Exc. Sat. 519 | ♿ Fri., Sat., Sun. 517 | ♿ Daily 503.2 | ♿ Daily 503 | Km | Mi | Newfoundland Time / Heure de Terre-Neuve | ♿ Daily 504 | ♿ Daily 504.2 | ♿ Daily 520 | ♦ Sun. Only 522 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 530 | 1230 | | 800 | 0 | 0 | Dp St. John's Ar △□ | 1530 | | 715 | Note 'A' |
| | 640 | 100 | | 835 | 45 | 28 | Holyrood Jct | 945 | | 835 | |
| | 635 | 135 | | 905 | 84 | 52 | Whitbourne Jct | 900 | | 810 | |
| | | | | | | | Whitbourne Jct - Placentia<br>For Service See Table 1 P 3 Var P 3 | | | | |
| | 710 | 210 | | 935 | 133 | 83 | Southern Hr ■ | 840 | | 525 | |
| | 720 | 220 | | 945 | 140 | 87 | Arnold's Cove Jct | 835 | | 520 | |
| | 730 | 230 | | 955 | 148 | 92 | Come-by-Chance | 825 | | 510 | |
| | 740 | 240 | | 1005 | 159 | 99 | Goobie's Jct | 815 | | 500 | |
| | 810 | 310 | | 1035 | 187 | 116 | Clarenville ■ | 755 | | 440 | |
| | | | | | | | Clarenville - Bunyeasis<br>For Service See Table 8 P 4 Var P 4 | | | | |
| | 835 | 335 | | 1100 | 217 | 135 | Port Blandford Jct | 725 | | 400 | |
| | 900 | 400 | | 1125 | 251 | 157 | (1) Terra Nova Nat. Park | 655 | | 335 | |
| | 910 | 410 | | 1135 | 262 | 164 | Eastport Jct | 645 | | 325 | |
| | 920 | 420 | | 1145 | 275 | 171 | Glovertown Jct | 635 | | 315 | |
| | 935 | 435 | | 1200 | 293 | 182 | Gambo | 620 | | 300 | |
| | 1810 | 530 | | 1230<br>1801 | 331 | 206 | Ar Gander (Airport) Dp △□<br>Dp Gander (Airport) Ar | 530<br>5201 | | 230 | |
| | 1830 | 550 | | 125 | 356 | 221 | Glenwood ■ | 455 | | 205 | |
| | | | | 145 | 378 | 235 | Notre Dame Jct | ↑ | | | |
| | 1105 | 625 | | ↓ | 14 | 8 | Lewisporte | ↓ | | 135 | |
| | 1115 | 640 | | ↓ | 378 | 235 | Notre Dame Jct | 435 | | 115 | |
| | | | | 150 | 389 | 242 | Norris Arm | | | 105 | |
| | 1145 | 710 | | 210 | 414 | 257 | Bishop's Falls | 415 | | 1200 | |
| | 0005 | 730 | | 245 | 426 | 266 | Ar Windsor/Grand Falls Dp △□<br>Dp Windsor/Grand Falls Ar | 350 | | 1230 | |
| | | | | | | | Grand Falls Bay D'Espoir<br>Grand Falls - Harbour Breton<br>For Service See Table 2 3 P 3 Var P 3 | | | | |
| | | | | 310 | 467 | 284 | Badger | 310 | | | |
| | | | | 348 | 508 | 316 | South Brook ■ | 230 | | | |
| | | | | 400 | 521 | 324 | Springdale Jct | 230 | | | |
| | | | | 425 | 542 | 337 | Baie Verte Jct | 205 | | | |
| | | | | 500 | 564 | 350 | Hampden Jct | 130 | | | |
| | | | | 515 | 610 | 379 | Hawley Jct | 110 | | | |
| | | | | 540 | 639 | 397 | Deer Lake | 1255 | | | |
| | | | | 600 | 661 | 411 | Pasadena | 1230 | | | |
| | | | 700 | 6397<br>700 | 687 | 427 | Ar Corner Brook Dp △□<br>Dp Corner Brook Ar | 12107<br>1110 | 12107<br>1150 | | 830 |
| | | | | | | | Corner Brook - St. Anthony<br>Corner Brook - Woody Point<br>Corner Brook - Norris Point<br>Plum Point - Reddickton - Englee<br>For Service See Table 4 5 6 7 P 3 Var P 3 | | | | |
| | | | | | 737 | 458 | Jct. T.C.H. & 480 | | | | |
| | | | 805 | | 34 | 15 | Stephenville | | 1045 | | 815 |
| | | | 825 | | 34 | 21 | Stephenville Crossing | | 1025 | | 800 |
| | | | 840 | | 60 | 36 | St. Georges | | 1010 | | 435 |
| | | | 845 | 810 | 771 | 479 | Flat Bay Jct | 1000 | 1000 | | 425 |
| | | | 910 | 835 | 798 | 496 | Robinsons Jct | 940 | 940 | | 405 |
| | | | 920 | ↓ | | | Robinsons | ↑ | 930 | | 345 |
| | | | 935 | ↓ | | | Jeffreys | | 915 | | 340 |
| | | | | 850 | 809 | 503 | St. Fintans | 915 | ↑ | | 325 |
| | | | 1010 | 920 | 850 | 528 | South Branch Jct | 840 | | | 240 |
| | | | 1030 | 930 | 866 | 538 | Doyles (Stanley) ■ | 805 | 825 | | 220 |
| | | | 1055 | 1000 | 904 | 562 | Port Aux Basques △□ | 850 | 800 | | 200 |

# SCHEDULE 2

READ DOWN — READ UP

A.M. - LIGHT PRINT; P.M. - DARK PRINT — ST. JOHN'S - PORT-AUX-BASQUES

| | • Daily Exc. Sa. 519 | • Fri., Sat., Sun. 517 | ♿• Daily 503.2 | ♿• Daily 503 | Km | Mi | Newfoundland Time / Heure de Terre-Neuve | ♿• Daily 504 | ♿• Daily 504.2 | • Daily 520 | • Sun. Only 522* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 630 | 1230 | | 640 | 0 | 0 | Dp St. John's Ar △□ | 1030 | | 715 | Note A |
| | 650 | 100 | | 825 | 42 | 26 | Holyrood Jct | 945 | | 835 | |
| | 835 | 135 | | 900 | 84 | 52 | Whitbourne Jct | 920 | | 810 | |
| | | | | | | | Whitbourne Jct Placentia<br>For Service See Table 1 P 3 Var P 3 | | | | |
| | 710 | 310 | | 935 | 133 | 83 | Southern Hr ■ | 840 | | 535 | |
| | 730 | 330 | | 945 | 140 | 87 | Arnold's Cove Jct | 835 | | 530 | |
| | 750 | 350 | | 955 | 149 | 93 | Come-by-Chance | 825 | | 510 | |
| | 740 | 740 | | 1005 | 159 | 99 | Goobie's Jct | 815 | | 500 | |
| | 815 | 410 | | 1035 | 187 | 116 | Clarenville ■ | 755 | | 440 | |
| | | | | | | | Clarenville - Bonavista<br>For Service See Table 8 P 4 Var P 4 | | | | |
| | 835 | 435 | | 1100 | 217 | 135 | Port Blandford Jct | 725 | | 420 | |
| | 900 | 500 | | 1125 | 231 | 157 | (1) Terra Nova Nat. Park | 655 | | 335 | |
| | 910 | 510 | | 1135 | 241 | 64 | Eastport Jct | 645 | | 325 | |
| | 920 | 520 | | 1145 | 275 | 171 | Glovertown Jct | 635 | | 315 | |
| | 935 | 535 | | 1200 | 293 | 182 | Gambo | 620 | | 300 | |
| | 1013 | 630 | | 1230<br>1300 | 331 | 206 | Ar Gander (Airport) Dp △□<br>Dp Gander (Airport) Ar | 550<br>5391 | | 230 | |
| | 1030 | 650 | | 1250 | 356 | 221 | Glenwood ■ | 455 | | 205 | |
| | | | | 1445 | 378 | 235 | Notre Dame Jct | ↑ | | | |
| | 1105 | 675 | | ↓ | 14 | 8 | Lewisporte | | | 135 | |
| | 1115 | 640 | | | 378 | 235 | Notre Dame Jct | 435 | | 115 | |
| | | | | 150 | 389 | 242 | Norris Arm | ↓ | | 105 | |
| | 1145 | 710 | | 210 | 414 | 257 | Bishop's Falls | 410 | | 1230 | |
| | 0005 | 730 | | 230<br>245 | 429 | 266 | Ar Windsor/Grand Falls Dp △□<br>Dp Windsor/Grand Falls Ar | 350<br>330 | | 1230 | |
| | | | | | | | Grand Falls Bay D'Espoir<br>Grand Falls Harbour Breton<br>For Service See Table 2 3 P 3 Var P 3 | | | | |
| | | | | 310 | 457 | 284 | Badger | 310 | | | |
| | | | | 345 | 509 | 316 | South Brook ■ | 230 | | | |
| | | | | 400 | 521 | 324 | Springdale Jct | 220 | | | |
| | | | | 435 | 542 | 337 | Baie Verte Jct | 205 | | | |
| | | | | 500 | 584 | 363 | Hampden Jct | 120 | | | |
| | | | | 515 | 610 | 379 | Hawley Jct | 110 | | | |
| | | | | 540 | 630 | 397 | Deer Lake | 1255 | | | |
| | | | | 550 | 661 | 411 | Pasadena | 1230 | | | |
| | | | | 6391 | 687 | 427 | Ar Corner Brook Dp △□ | 12101 | 12101 | | |
| | | | 700 | 700 | | | Dp Corner Brook Ar | 1110 | 1150 | | 630 |
| | | | | | | | Corner Brook - St. Anthony<br>Corner Brook - Woody Point<br>Corner Brook - Norris Point<br>Plum Point Rodrickson Englee<br>For Service See Table 4 5 6 7 P 3 Var P 3 | | | | |
| | | | | | 737 | 458 | Jct TCH & 460 | | | | |
| | | | 805 | | 24 | 15 | Stephenville | | 1045 | | 515 |
| | | | 825 | | 34 | 21 | Stephenville Crossing | | 1025 | | 450 |
| | | | 840 | | 60 | 37 | St. Georges | | 1010 | | 435 |
| | | | 845 | 819 | 771 | 479 | Flat Bay Jct | 1000 | 1000 | | 425 |
| | | | 915 | 835 | 798 | 496 | Robinsons Jct | 940 | 940 | | 405 |
| | | | 930 | ↓ | | | Robinsons | ↑ | 920 | | 345 |
| | | | 935 | | | | Jeffreys | | 915 | | 340 |
| | | | | 856 | 800 | 503 | St. Fintans | 915 | ↑ | | 325 |
| | | | 1010 | 920 | 850 | 529 | South Branch Jct | 840 | | | 340 |
| | | | 1050 | 930 | 885 | 550 | Doyles (Stories) ■ | 825 | 825 | | 225 |
| | | | 1055 | 1000 | 904 | 562 | Port Aux Basques △□ | 800 | 800 | | 200 |

## APPENDIX 7

### Acknowledgements

Persons who assisted in the collection of data for this report and contributed information, suggestions and ideas about it:

**Organizations**

Amalgamated Senior Citizens Federation - The Seniors' News
Mrs. Florence Lester — Operations Manager

Canadian Paraplegic Association
Ivan Alexander — Exectutive Director (Acting)

Children's Rehabilitation Center
Ron Penney — Director
Terry O'Brien — Co-ordinator

Civic #4 - Independent Living Centre
Mary Reid — Program Co-ordinator

Consumer Organization of Disabled People
Carmel Osborne — Executive Director
Myles Murphy
Kenneth March — Vice-President, Corner Brook

The Leonard A. Miller Centre
Florence Penney — Co-ordinator

Hoyles/Escasoni Complex
Barbara Taichman — Executive Director

Longside Club
Lorraine Foley

Newfoundland Department of Health
Ms. Gerry Spurrell — Management - Disability Information Systems

Newfoundland Human Rights Commission
Gladys Vivian — Executive Director

Pensioners and Senior Citizens Federation
Eric Fisher — President

The Orange Home
Anne Marie Hagan — Executive Director

**APPENDIX 7**
**(continued)**

**Passengers or Representing Passengers**

Interviews

| | |
|---|---|
| Mrs. Susan Baines | Shoal Cove West |
| Crystal Bushey | Hampden |
| Mrs. Patricia Bushey | Hampden |
| Mrs. Kenneth Claxton | Corner Brook |
| Lloyd Coates | Campbellton |
| Mrs. Lloyd Coates | Campbellton |
| Chad Dillon | Gander |
| Mrs. M. Dillon | Gander |
| Paul Doucette | St. John's/Doyles |
| John Hannaford | St. John's |
| Mandy Ivany | St. John's |
| Mrs. Don Ivany | St. John's |
| Olive Jenkins | St. John's/Badger |
| Joanne MacDonald | St. John's |
| Bob Marsh | St. John's |
| Helen Morris | St. John's/Jeffrey's |
| Mrs. O. Norman | Gander |
| Oswald Norman | Gander |
| Glenys Oxford | Springdale |
| Roger Penney | Burgoynes Cove |
| Barbara Prowse | St. John's/Bishops Falls |
| Gloria Spry | St. John's |

Questionnaires

| | |
|---|---|
| Dale Dalton for Douglas Stagg | Gander |
| Annie Smith | Millville |
| Mrs. Susan Baines | Shoal Cove West |
| Crystal Bushey | Hampden |
| Helen Morris | Jeffrey's |

Roadcruiser

| | |
|---|---|
| Ed Hynes | Driver |
| Stan Temple | Driver |
| Trevor Harding | Driver |
| Ross Reid | Ticket Agent |
| J.E. Making | Maintenance Supervisor |
| J. Ryan | Operations Officer |
| C.L. Lingard | Operations Supervisor |
| H. Richards | Operations Supervisor |
| Kevin Lewis | Administrative Assistant |
| John Furlong | Supervisor Sales & Promotion |